This Report has been cleared for submission to the Board by Programme Manager, Marie O'Connor.

Signed: Marie O'Connor ***Date:*** 12/01/2023

OFFICE OF ENVIRONMENTAL SUSTAINABILITY

INSPECTOR'S REPORT ON AN INDUSTRIAL EMISSIONS LICENCE REVIEW, LICENCE REGISTER NUMBER P0040-03

TO: DIRECTORS

FROM: NIAMH CONNOLLY	**DATE: 12/01/2023**

Licensee:	Anglo Beef Processors Ireland Unlimited Company	
CRO number:	217122	
Location/address:	Christendom, Ferrybank, County Waterford	
Review initiated:	8th December 2020	
CLASS OF ACTIVITY (UNDER EPA ACT 1992 AS AMENDED):	7.7.1	The disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes per day.
CATEGORY OF ACTIVITY UNDER IED (2010/75/EU):	6.5	Disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes per day.
Main BREF document/CID/BAT Note:	Reference Document on Best Available Techniques in the Slaughterhouses and Animal By-products Industries (EC, 2005) (SA BREF) BAT Guidance Note on Best Available Techniques for the Disposal or Recycling of Animal Carcasses and Animal Waste (EPA, 2008)	
All relevant CIDs, BREF documents and National BAT notes are listed in the appendix of this report.		
Activity description/background: Anglo Beef Processors Ireland Unlimited Company render animal by-products arising from the slaughtering and meat processing industry as well as fallen animals to produce meat & bone meal and tallow.		
Additional information received:	Yes (11/11/2022, 01/11/2022 06/10/2022, 31/08/2022, 04/01/2022 & 22/09/2021)	
No. of submissions received:	89	

Environmental Impact Assessment required: No	Stage 2 Appropriate Assessment required: Yes

Site visit: 24/10/2022	Site notice check: N/A

1. Introduction

On the 17th December 2020, the Environmental Protection Agency initiated a review of the Industrial Emission (IE) licence (Reg No. P0040-03), held by Anglo Beef Processors Ireland Unlimited Company in Christendom, Ferrybank, Co. Waterford. There are two sites of the same name adjacent to each other at the same address, this site (P0040-03) being a renderer and the other (P0205-02) being a slaughtering activity. Therefore, to distinguish between them, this rendering site is hereafter referred to as Waterford Proteins, its previous trading name.

Waterford Proteins was first licenced in June 1997. The licence was reviewed in April 2001 (P0040-02) and amended for the purposes of the IPPC Directive in 2006 and the IE Directive in 2013. This review is being initiated in accordance with Section 90(4)(a)(i) of the EPA Act, 1992, as amended due to material changes in the nature and extent of emissions at the installation.

Fig 1.1 Licence Boundary and Location of Installation P0040-02

(Ref. EPA GIS System)

Waterford Proteins is located on a 5.5 hectare site and operates 24 hr/day, 7 days/week, employing 40 employees. During 2020, the quantity of Category 1, Category 2 and Category 3 animal by-products processed was 107,619 tonnes. The company operate a continuous cooking process with an intake capacity threshold of 450 tonnes per day, with a maximum weekly intake capacity threshold of 2,625 tonnes. This intake capacity threshold was approved by the Agency on the 10th January 2007. The restriction of 450 tonnes per day has resulted in material not being accepted by the installation to ensure this limit is not exceeded. As part of this Agency initiated review the licensee requests the daily intake capacity to increase to 600 tonnes per day with the overall weekly intake capacity remaining at 2,625 tonnes. This request cannot be considered as it is not within the scope of this initiated review, however

Schedule A of the RD proposes to allow for the daily tonnage to be varied with the approval of the Agency subject to the total weekly tonnage limit (2,625 tonnes) staying the same. A thermal oxidiser was installed at the installation around 2004 to treat odourous gases from the rendering and product cooling processes at the installation. The operation, control and maintenance of the thermal oxidiser is not regulated under the existing licence and this is the main reason this review was initiated by the Agency.

2. Description of Activity

Waterford Proteins render animal by-products (Category 2 and Category 3) and Specified Risk Material (SRM) (Category 1) arising from the slaughtering and meat processing industry as well as fallen animals to produce meat & bone meal (MBM) and tallow. The installation sources its raw materials from abattoirs and fallen animal licensed collectors.

These raw materials are transported to the site in sealed or enclosed vehicles as soon as is practical and are then received into a purpose-built raw materials intake building. This is a sealed building with automated controlled entrance doors (operated internally), which help to minimise the time the doors are left open during the delivery stage. All production buildings are maintained under negative pressure and the air from these buildings is ventilated via stainless steel internal ducting, located at the top of the roof and above the intake door, to the biofiltration system (Ref: A2-AEP1).

Stage 1 of the process involves the crushing of the raw material, whole carcass, animal bone and/or offal, via a series of crushers, to achieve a size reduction that is specified in *the European Union (Animal By-Products) Regulations 2009, as amended* (50mm, but size actually reduced to 25mm). The size reduction is to allow for adequate heat penetration for cooking and sterilisation. The material is then mixed and passed onto the next stage.

In Stage 2 the mix is cooked in a continuous cooker prior to separation of the solid and liquid phases in a press. Fats are released through mechanical pressing of the products. The liquid phase is further decanted (removal of fines) to produce tallow which is then sterilised in accordance with *the European Union (Animal By-Products) Regulations 2009, as amended* and sent to bulk storage tanks where it is sent off-site for fuel, destruction or combusted on-site as a fuel source.

In Stage 3 the meat and bone meal is sterilised in accordance with *the European Union (Animal By-Products) Regulations 2009, as amended* prior to being stored in bulk silos/tanks. The solid phase meat and bone meal is sent off-site for incineration.

The main emissions to air are from the standby boiler, recuperative thermal oxidiser and biofilter. There is also condensate and wash water produced post cooking which is discharged to the waste water treatment plant (WWTP) off-site at Anglo Beef Processors Ireland Unlimited Company (Reg. No. P0205-02)(hereafter referred to as ABP Ireland Unlimited Company).

3. Planning Status

Planning permission is in place for the carrying out of the activity and for the installation of the thermal oxidiser (An Bord Pleanala Reference Number: PL 10.200681). No other developments have been proposed of the purposes of this licence review.

4. Environmental Impact Assessment (EIA) Screening

The requirements of Section 83(2A) and Section 87(1A) to (1I) of the Environmental Protection Agency (EPA Act 1992) as amended (hereafter referred to as the EPA Act) do not apply to a review of a licence carried out by the Agency under Section 90(1)(a) of the EPA Act. Therefore, this licence review has not been made subject to an Environmental Impact Assessment (EIA).

5. Compliance History

Since 2013, at the time of writing, there have been 109 complaints (107 related to odour and 2 related to noise). There have been 8 non-compliances raised by Office of Environmental Enforcement (OEE) since 2013 (4 related to odour, 1 spillage, 1 failure to notify an incident, 1 unsealed container, and 1 related to integrity testing). One compliance investigation (CI) was raised on 30th May 2014 which related to nuisance (odour emissions) from ABP Ireland Unlimited Company and Waterford Proteins. This issue was addressed, and the CI was closed on the 29th February 2016.

Since 2013, there have been 10 incidents (5 minor, 5 limited) reported to the Agency as follows:

- 7 related to power failure which resulted in failure of abatement equipment (1 in 2021 and 2 in 2022).
- 1 related to fire.
- 1 related to uncontrolled release due to adverse weather conditions.
- 1 related to spillage.

There have been 46 air related site visits since 2013. They comprised of 32 odour assessments and 14 air monitoring events. 2 of the 12 odour impact assessments carried out during 2021 and 2022 were non-compliant.

6. Best Available Techniques

An EU Commission Implementing Decision has not been published for the Slaughterhouses and Animal By-Products Industries, however the BREF review process is currently at the final meeting stage.

BAT for the installation was assessed against the BAT conclusions in the following documents:

- BREF document for the Slaughterhouses and Animal By-Products Industries (May 2005);
- BREF document for Emissions from Storage (July 2006);
- BREF document for Energy Efficiency (February 2009);
- BAT Guidance Note on Best Available Techniques for the Disposal or Recycling of Animal Carcasses and Animal Waste (EPA, 2008).

The BAT CID for Waste Treatment (August, 2018) was referred to when assessing the channelled emissions from the activity (general BAT Conclusions for the biological treatment of waste (BAT 34)).

The licensee submitted an assessment of the installation's activity against the relevant BAT conclusion requirements contained in the Slaughterhouses and Animal By-products Industries BREF. The licensee has demonstrated that the installation will

generally comply with the BAT conclusion requirements specified in this BREF and the additional BREF documents referenced above.

BAT identifies that effluent should be subject to a biological treatment process, aerobic or anaerobic treatment, and to tertiary treatment.

I consider that the applicable BAT Conclusion requirements are addressed through the technologies and techniques as described in the review application, as well as the conditions and limits specified in the Recommended Determination (RD) and inclusion of additional specific conditions (see Table 6.1).

Table 6.1: Additional Conditions to address BAT Conclusion requirements

BREF Document on Emissions from Storage	
Inclusion of requirement for a leak detection system.	Condition 3
BREF Document on Energy Efficiency	
Inclusion of Energy and Resource Efficiency in the Objectives and Targets.	Condition 2

7. Emissions

7.1 Emissions to Air

This section addresses emissions to air from the installation and the environmental impact of those emissions.

Channelled Emissions to Air

The installation has two steam raising combustion units (a boiler within thermal oxidiser (A2-AEP2) and a standby boiler (A1-BEP3)).

The thermal oxidiser (A2-AEP2)(14.4 MW thermal input), operating at the installation since 2004, is there to abate odour generated on site. The thermal oxidiser can operate on a number of fuels including natural gas, low sulphur fuels and tallow and the heat recovered from the unit is used to generate steam for the rendering process and to heat the tallow storage tanks. A1-BEP3 is a standby boiler (14.66 MW thermal input) that is used when the thermal oxidiser is down for maintenance. A1-BEP3 can operate on natural gas, diesel, or tallow.

The biofilter (emission point A2-AEP1) is currently used to treat odour emissions from the intake buildings, decanter vapours, tallow steriliser vapours, vapours from storage silos and storage tanks, vapours from meat & bone meal off-loading and tallow off-loading. The biofilter is accepting high volume but low intensity VOC emissions, therefore the biofilter emissions are limited in nature and were not included in the air dispersion model.

Assessment

Volatile Organic Compound (VOC), Particulate Matter (PM), Nitrogen Dioxide (NO_2) and Sulphur Dioxide (SO_2) emissions arise from the combustion of fuel and oxidation

of gases from the standby boiler and recuperative thermal oxidiser. A thermal oxidiser comprises a 3-unit system that consists of an oxidation chamber, where the gases are heated (in this case to 750°C); a retention chamber, where the temperature is maintained for the required time, e.g. 1 - 2 seconds; and a boiler. A chamber operating temperature of 850°C shall be maintained as a minimum when using tallow as a fuel in accordance with *European Union (Animal By-Product) 2011 Regulations, as amended*. The oxidation chamber is designed to optimise mixing of flue gases, vapours and air from the processing plant. Operation of the system is controlled automatically to maintain the required process conditions. The recuperative thermal oxidiser recovers the heat from the process gases and recycles it back into the cooking process, thereby reducing fuel consumption and cutting costs.

Air dispersion modelling (AERMOD Model Version 19191) was carried out to predict ambient pollutant concentrations resulting from main emissions to air (see Table 7.1 below). The modelling used was in accordance with published Agency guidance (AG4) and was considered sufficiently detailed and conservative to adequately assess the impact of the main emissions to air.

The model incorporated hourly meteorological data (Johnstown Castle 2016-2020), building wake effects, surface roughness, topography and design details for all emission points on-site. For background (ambient) air quality, the maximum annual average concentrations for Zone C from the Agency's publication "Air Quality Monitoring Annual Report 2019" were used for the parameters VOC, PM, NO_2 and SO_2.

The modelling approach is based on adoption of the following scenario:

- The thermal oxidiser uses diesel/tallow on a full year operation (worst case scenario).
- Maximum flows and requested concentration limits for VOC, NO_2, SO_2 and particulates (PM) were assumed.
- It is assumed that all PM emitted from the standby boiler/thermal oxidiser is as PM_{10}.
- Emissions of PM comprising of $PM_{2.5}$ were assumed to be emitted at the same rate as calculated for PM_{10}.
- VOC emissions are expressed as total organic carbon (TOC) and considered to comprise 100% benzene as worst-case scenario.
- Ambient background levels are included and the values are conservative.
- All main emission points are operating 24 hours a day, 7 days a week, 365 days a year.

As part of this assessment regard was had to the EPA's Air Dispersion Modelling from Industrial Installations Guidance Note (AG4) which requires that the process contribution (PC) from industrial installations is added to the background concentration (BC) to obtain the predicted environmental concentration (PEC). To assess the impact, each PEC is compared with the relevant air quality standards (*Air Quality Standard Regulations, 2011 (S.I. No. 180 of 2011)).*

The European Union (Medium Combustion Plants) Regulation, S.I. No. 595 of 2017, prescribe the limits to be applied to medium combustion plant (MCP) according to the fuel type used. As the thermal oxidiser is not a MCP, there is no requirement to apply the MCP limits, however, the emission limit values (ELVs) used in the air dispersion model for NO_2 and particulates will be applied in Schedule B of the licence and are aligned with the Regulation.

Table 7.1. Predicted Impact of Air Emissions from Thermal Oxidiser

Parameter	Averaging Period	Background concentration (µg/Nm^3)	Process contribution to PEC (µg/Nm^3)	PEC (µg/Nm^3) Beyond the site boundary (% of the air quality standard)	Air Quality Standards (µg/Nm^3) Note 1
NO_2	99.8%ile hourly Mean	24	19.8	33.8 (17%)	200
NO_2	Annual limit for protection of human health	12	0.92	12.92 (32%)	40
NO_2	Annual Critical Limit for the Protection of Vegetation and Natural Ecosystems	12	0.92	12.92 (43%)	30
PM_{10}	24 Hour 90.4%ile	27	0.89	27.3Note 2 (55%)	50
PM_{10}	Annual limit for protection of human health	15	0.26	15.26Note 2 (38%)	40
$PM_{2.5}$	Annual limit for protection of human health	10.5	0.26	10.76 (43%)	25
SO_2	1-Hour 99.7th%ile Mean	50	56.2	66.2Note 3 (18.9%)	350
SO_2	24 Hour 99.2nd%ile	20	21.7	31.7Note 3 (25%)	125
SO_2	Annual limit for protection of vegetation	5	3	8Note 3 (40%)	20
VOC (as TOC)	Annual limit for protection of human health	0.3Note 4	0.26	0.56 (10%)	5

Note 1: Air Quality Standards Regulations, SI 180/2011.
Note 2: Short-term Environmental Concentrations calculated according to EPA guidance (AG4) based on the maximum background 24-hr mean (as a 90th%ile) of 27 µg/m^3 and annual mean of 15 µg/m^3.
Note 3: Short-term Environmental Concentrations calculated according to EPA guidance (AG4) based on the maximum background 1-hr mean (as a 99.7th%ile) of 50 µg/m^3, the maximum background 24-hr mean (as a 99.2th%ile) of 20 µg/m^3 and an annual mean of 5 µg/m^3.
Note 4: Worst-case benzene level in Ireland for 2019 (EPA data).

Figure 7.1. Hourly Mean NO_2 Maximum Concentrations (Ref. Air Dispersion Model dated 22 June 2021)

Figure 7.2 Annual Mean NO_2 Maximum Concentrations (Ref. Air Dispersion Model dated 22 June 2021)

As can be seen from Table 7.1 the predicted environmental concentrations calculated by the model do not exceed the relevant air quality standards for NO_2, SO_2, VOC, and $PM_{10}/PM_{2.5}$. The RD includes the emission limits (Table 7.2 below) that are compliant with the Medium Combustion Regulations (S.I. 595 of 2017), where applicable. The RD specifies a TVOC ELV (10mg/Nm^3) for the thermal oxidiser and biofilter, that aligns with the Waste Treatment CID and the Draft Slaughtering/Animal By-product BREF.

Table 7.2 outlines the proposed emission limit values for each main emission point.

Table 7.2. Channelled Emissions to Air

Emission Reference	Description	Volumetric flow rate (Nm^3/hr)	Emission Point Grid Ref.	Parameter	Proposed ELV for Natural Gas (mg/Nm^3)	Proposed ELV Low Sulphur Fuel or Tallow (mg/Nm^3)
A1-BEP3	Standby boiler	11,000	262112E, 112127N	NO_2 SO_2 Particulates	220 (200 Note 1)	650 350 30
A2-AEP1	Odour Control Unit - Biofiltration System	150,000	262206E, 112131N	TVOC		10
A2-AEP2	Odour Control Unit - Thermal Oxidiser	150,000	262131E, 112135N	NO_2 SO_2 Particulates TVOC	220	650 400 30 10

Control Measures

The proposed control measures provided for in the RD include:

- The emission limits and volumetric flows specified in Schedule B of the RD are in accordance with what was requested and modelled by the licensee. BAT for the sector was applied in setting the ELVs for other parameters.
- The abatement systems in place meets the requirement of BAT (A2-AEP1-biolfiltration system, A2-AEP2-thermal oxidiser).
- The reference conditions for combustion and non-combustion sources are outlined in Condition 4 of the RD.
- Condition 6 and Schedule C of the RD specifies the control and monitoring requirements for emissions to air to ensure compliance with ELVs and performance of abatement equipment.

Dust

Dust generation is associated mainly with vehicle movements within the installation during dry weather. The raw material is stored indoors, is not dusty and minimising dust formation is mainly a function of good housekeeping at the installation and keeping the road surfaces in a clean condition. Condition 8 will ensure the transportation and handling of dusty material including MBM will be carried out in a manner which does not give rise to dust emissions and that stocks of dusty material will be appropriately stored. The RD requires all outside yards and surfaces to be kept clean and spillages are cleared up as soon as possible.

Odour

Odour is the main concern in relation to air emissions from a rendering installation. There are a number of residential properties within 200 m of the site and several housing developments within 500m of the site as shown in Figure 7.3.

Figure 7.3 Nearby Sensitive Receptors (Ref. Odour Dispersion Model).

The malodorous emissions from processing mainly arise from gaseous odour emissions from intake areas and discharges from cookers, presses and decanters/centrifuges. Other sources can include the displacement of malodorous air from the tallow and meat & bone meal storage tanks, condensate tank, pipework, manholes, spillages, building integrity, the cleaning of process equipment, and the operation of odour abatement infrastructure beyond its design specification.

Assessment

As detailed in section 5 above since 2013, at the time of writing, there have been 109 complaints, 107 of which related to odour. Eight non-compliances were raised since 2013, four of which related to odour. One CI was raised in 2014 relating to nuisance odour emissions from ABP Ireland Unlimited Company and Waterford Proteins.

All raw material deliveries are covered and are required to be offloaded within the negative pressure zone of the animal by-product inspection building and transferred to the intake hoppers to await processing. When the vehicle arrives in the building, it's load is tipped onto the floor and loaded into the intake hopper with a loader. After the load is tipped, the vehicle is washed and disinfected before leaving the building.

The non-enclosed biofilter (AEP-1) has been identified as the main source of the malodour at the installation. The biofilter is used to treat odour emissions from the intake buildings (raw material and crushing vapour), decanter vapours, tallow steriliser

vapours, vapours from storage silos and storage tanks (incl. blood tanks, the MBM tanks and tallow tanks), vapours from meat & bone meal off-loading and tallow off-loading. The biofilter consists of a 500m^2 media bed of concrete construction with a one meter deep bed of wood chip. The air cooled biofilter and condensing system are also used as a standby (by-pass) system if the thermal oxidiser malfunctions. The biofilter bed is currently routinely monitored for emissions of ammonia, amines, mercaptans and hydrogen sulphides as required in the conditions and schedules of the existing licence P0040-02. The biofilter is currently not enclosed and the RD specifies to enclose the biofilter and channel the emission to a 10-metre stack within six months of the date of grant of licence to minimise odour from the biofilter.

Vapour emissions from the continuous cooker (13,000 kg/hr-rendering process) and other processes (7,000 kg/hr pressing process and MBM steriliser vapour) are extracted via an air collection vessel located above the cooker and are oxidised in the thermal oxidiser. There is also 20,000 kg/hr of combusted air (process air from the cooker area) oxidised in the thermal oxidiser. The thermal oxidiser is identified as contributing minor amounts of odour emissions.

Model:

Odour dispersion modelling was carried out using the United States Environmental Protection Agency's regulatory model AERMOD (Version 22112). The model incorporated hourly meteorological data (Johnstown Castle 2016-2020), building wake effects, surface roughness, topography and design details for all odour emission points on-site. The emission rates used in the odour impact modelling are calculated in terms of odour release per second. The assessment provides a clear statement of the relative contributions to off-site odour from each of the emission sources and confirms which sources are exerting the greatest off-site impact.

The EPA Guidance (Appendix I, *AG4: Air Dispersion Modelling from Industrial Installations Guidance Note*, 2020) notes that a target of 1.5 OU_E/m^3 as a 98th %ile of one hour averaging periods at the worst-case sensitive receptor is appropriate for this type of activity (Table 7.3). The model assessed the combined emissions from the proposed enclosed biofilter and thermal oxidiser at maximum odour concentration of 1000 OU_E/m^3 and flows. The model demonstrated that emissions are predicted to be within target odour value of 1.5 OU_E/m^3 (Table 7.3).

Table 7.3: Predicted Impact of Odour Emissions from the Thermal Oxidiser

Parameter	Averaging Period	Background concentration (µg/Nm^3)	Process contribution to PEC (µg/Nm^3)	Odour Unit Standard (µg/Nm^3) (% of the standard)
Odour	Maximum 1-Hour (as a 98th%ile)	-	1.25	1.5 (83%)

Figure 7.4 98%ile of 1-Hour Mean Odour Concentration = 1.25 OU_E/M^3 at Worst Case Receptor (Ref. Odour Model dated 04 November 2022)

The Commission Implementing Decision (CID) 2018/1147 establishing best available techniques (BAT) conclusions for waste treatment does not address the disposal or recycling of animal carcases or of animal waste as this is covered by the SA BREF. The SA BREF recommends odour monitoring but odour emissions are only dealt with qualitatively in the BREF, due to the lack of consistency in terms of data measurement of odour at the time of publication in 2005.

It is considered appropriate to apply the odour limits specified in the waste treatment CID in this instance to a rendering installation, given odour nuisance at sensitive receptors has been substantiated by complaints recorded. Odour limits will be applied in the RD to all channelled sources of odour as outlined in Table 7.4 to comply with the ambient ground level concentration required for the rendering sector. This will replace the existing licence requirement to monitor for ammonia, amines, mercaptans and hydrogen sulphides. The Draft SA BREF Document currently includes BAT AELS for odour, with a maximum range of 1,100 OU_E/m^3.

Table 7.4: Emission limit values (ELV) for all channelled sources of odour from the rendering plant.

Emission Ref.	Location	Process Description	ELV	
			Current Emission Limit Values (ppm)	Proposed Emission Limit Values OU_E/m^3
A2-AEP1	Biofilter- residual room air via extraction fan from intake building, storage silos and tanks.	Proposed biofilter stack	Ammonia 50 Amines 5 Hydrogen Sulphide & Mercaptans 5	Odour-1,000
A2-AEP2	Rendering- Cooking building, Pressing building, Decanting building	Existing Thermal Oxidiser	Ammonia 50 Amines 5 Hydrogen Sulphide & Mercaptans 5	Odour-1,000

The RD specifies odour and TVOC ELVs on all channelled emissions that have the potential to generate odour. The odour limits were proposed by the licensee to meet the required ambient standard of 1.5 OU_E/m^3 at sensitive receptors as outlined in BAT. The licensee will be required to conduct odour monitoring at the rendering plant emission points quarterly given the history of odour nuisance. The application of these limits will be supported by the requirement to conduct daily odour surveys and implement an odour management plan (Condition 6) in accordance with Agency Guidance Note AG9.

In addition, the RD requires negative pressure and the integrity be maintained in the processing buildings (Condition 3) and specifies materials handling requirements. This is currently achieved by ventilating the whole building at a rate to ensure negative pressure inside. The intake building must be reasonably airtight, as any openings or leakage's will increase the amount of air to be drawn off and treated. The requirements of Condition 3 and 6 in the RD relating to air emissions are consistent with other rendering licences granted by the Agency.

7.2 Emissions to Water/Sewer/Groundwater

Indirect Emissions to Water

Any wastewater derived prior to the cooking of the animal by-product is deemed an animal by-product and this needs to be treated in accordance with the *European Union (Animal By-Product) 2011 Regulations, as amended.* Any wastewater originating from the cleaning of vehicles, trailers, containers, intake area, equipment used for the

collection, transfer and handling of raw animal by-products, CAT 1 materials and fallen animals goes via the 4mm screens to the effluent storage tanks before being pumped to the cooker for treatment (Condition 8). The general washing of the machinery, floors and walls in the cooker, press, decanter and steriliser room, condensate (from air cooled condensing system and boiler blowdown (2-3m^3)), sanitary effluent arising from toilets, canteen washdown and rainwater from external potentially contaminated hardstanding areas is discharged via emission point W1-SEP1 where it is discharged to the WWTP at the ABP Ireland Unlimited Company, Reg. No. P0205-02 for treatment. This treatment consists of a rotary screen, fat traps, dissolved air flotation with the use of flocculation to remove additional solids, a covered balance tank, aeration basin, anoxic tank to aid denitrification, and phosphorus removal by chemical precipitation. The screenings are collected daily in a CAT 1 trailer and returned to Waterford Proteins P0040-02 for processing. Both the P0040-02 IE licence and P0205-02 IE licence accommodate this discharge arrangement.

The licensee is requesting a reduction in daily flow limit from 400 m^3/day to 300m^3/day due to conservation of water practices on site and an increase of the hourly limit from 30m^3/hr to 60 m^3/hr to cope with the cleaning regime, which has been accommodated in the RD. The licensee has also requested a mass loading limit of 600 kg/day for suspended solids discharged via W1-SEP1. However based on the suspended solid concentration limit in the existing licence and the reduced flow limit proposed by the licensee, the maximum mass loading that can be permitted at W1-SEP1 is 450 kg/day, as included in the RD.

When the thermal oxidiser is shutdown (0.14-0.18% of operation), condensate is generated when the standby boiler is in operation. This condensate has been discharging to the WWTP at the ABP Ireland Unlimited Company, Reg. No. P0205-02 via a new emission point W1-CEP1. The licensee has requested that this emission point is provided for in Schedule B and Schedule C. The RD sets limits at the new W1-CEP1 for flow (100 m^3/day), temperature, pH and chemical oxygen demand (COD) (Table 7.6).

Receiving WWTP:

A letter from the neighbouring installation, Anglo Beef Processors Ireland Unlimited Company, Reg. No. P0205-02, was received stipulating that its WWTP on site has sufficient capacity to treat the trade effluent and condensate discharge to the required standards. The WWTP currently operates at approximately 50% capacity and the maximum discharge volumes from the Waterford Proteins installation will represent about 33% of maximum licensed effluent discharge volumes from the ABP Ireland Unlimited Company, Reg. No. P0205-02, WWTP. ABP Ireland Unlimited Company (Reg. No. P0205-02) are a Class 7.4 activity involved in the slaughtering of animals and are responsible for the operation and maintenance of the waste water treatment plant as well as the final treated waste water discharge. The assessment carried out at the time the P0205-02 IE Licence was granted takes in to account the discharge from the Waterford Proteins site.

The ABP Ireland Unlimited Company (P0205-02) WWTP discharges to the Middle Suir Estuary (IE_SE_100_0550) 370m south-west of the site, where there are greater than 500 dilutions available in the receiving water.

The Blackwater subcatchment (code 16_29) which receives the WWTP discharge has been identified under the 2nd cycle of the River Basin Management Plans (2015 to 2021) as an Area for Action. The proposed process effluent emission limits for the Waterford Proteins installation are in keeping with the WWTP capacity at the ABP

Ireland Unlimited Company installation (P0205-02). The most recent AER's (2017-2021) for the installation indicates that the WWTP is in compliance with the discharge emission limits specified in its IE licence.

The RD carries forward existing emission limits at W1-SEP1 for temperature, pH, BOD and SS, and includes a new limit for toxicity and also a reduced flow limit as requested (Table 7.5). The RD sets limits at the new W1-CEP1 for flow (100 m^3/day), temperature, pH and chemical oxygen demand (COD) (Table 7.6).

The RD requires continuous monitoring for flow; weekly monitoring for pH, temperature, biochemical oxygen demand (BOD) and suspended solids (SS); and monthly for organic compounds and fats, oils and greases (FOGs) at W1-SEP1. Toxicity monitoring at W1-SEP1 is also included in the RD as the treated effluent discharges to an SAC (Lower River Suir SAC (Site Code 002137)). The RD also requires continuous monitoring for flow and weekly monitoring for pH, temperature and chemical oxygen demand (COD) at W1-CEP1.

Table 7.5 Proposed Emission Limit Values for W1-SEP1

Parameter	Emission Limit Value	Daily Mean Concentration (mg/l)	Daily Mean Load (Kg/day)
Flow	300 m^3/day		
Temperature	35^{O}C		
pH	6 - 9		
Toxicity	5 TU		
	mg/l		
Biochemical Oxygen Demand	5,000	2,100	840
Suspended Solids	1,500	-	450

Table 7.6 Proposed Emission Limit Values for W1-CEP1

Parameter	Emission Limit Value	Daily Mean Concentration (mg/l)	Daily Mean Load (Kg/day)
Flow	100 m^3/day		
Temperature	35^{O}C		
pH	6 - 9		
	mg/l		
COD	10,000	-	100

Emissions to Sewer

There are no emissions to sewer.

Emissions to Ground/Groundwater

There are no emissions to ground/groundwater permitted under this licence. The site is underlain by the Waterford groundwater body (Ref: IE_SE_G_149). The area is

underlain by a Regionally Important Aquifer of fissured bedrock (Rf). The vulnerability of the bedrock aquifer has been classed as moderate for the northern section of the site and high for the southern section of the site. The EPA classifies the Waterford GWB as having 'Good Status' based on quality data for the period 2013-2018. The nearest watercourse is the River Suir which is approximately 280m south west of the site.

The licensee abstracts groundwater from the adjacent ABP Ireland Unlimited Company site, Reg. No. P0205-02. This abstraction is registered with the Agency, Register no. R00200-01 (5 no. wells). There is a current abstraction rate of 1000 m^3/day per well. Water abstraction is metered on the Waterford Proteins site and the RD specifies that water is metered.

The licensee has stated that there is no known existing or historical soil or groundwater contamination. The Environmental Assessment Report, discussed in the Cessation of Activity section of this report, provides a summary in relation to groundwater and soil monitoring and analysis, and information on the hazardous substances stored at the installation.

In accordance with the requirements of the IED, the RD requires bi-annual groundwater monitoring for a range of parameters and monitoring for relevant hazardous substances every five years for groundwater and ten years for soil. The groundwater monitoring points included in the Environment Assessment Report, have been added to the licence in Schedule C.6 Ambient Monitoring.

7.3 Storm Water Discharges

Storm water from SW1 which arises from areas of potential poor-quality run-off (main production buildings, delivery area, storage areas) is directed via W1-SEP1 to the neighbouring WWTP. The remaining storm water from areas of lower risk of contamination such as non-process areas and area around the biofilter are discharged to a soakaway via discharge points SW2 and SW3 which are currently not included in the existing licence. There are currently no oil separators at the installation and no shut off valves installed on SW1, SW2 and SW3 discharge points.

Assessment

Trigger values have been established for stormwater emissions at SW1, SW2 and SW3 in accordance with the EPA Guidance (Guidance on the Setting of Trigger Values for Storm Water Discharges to Off-Site Surface Waters at EPA IPPC and Waste Licensed Facilities, 2012). The RD now includes control and monitoring requirements for SW1, SW2 and SW3, including a requirement for silt traps, separators and automated shut off valves. Compliance with the requirements of the RD and operation of an Environmental Management Systems (EMS) will also ensure good management of surface water runoff within the installation boundary.

Control Measures

- Condition 3 of the RD requires the licensee to install and maintain appropriate silt traps and oil separators at the installation.
- The RD requires the licensee to install, maintain and implement automated shut off valves within 12 months of date of grant of licence.

- The RD requires that the storm water discharge is visually inspected daily and monitored in accordance with *Schedule C.2.2 Monitoring of Storm Water Emissions*.
- Condition 6 of the RD requires the licensee to establish suitable trigger levels for pH, TOC, suspended solids and conductivity in storm water discharges.
- The RD requires the licensee to establish and maintain a response programme to address any exceedances of the trigger levels.
- The RD contains standard conditions in relation to the storage and management of materials and wastes.
- The RD also requires that accident and emergency response procedures are put in place. The controls pertaining to accidents and emergencies are addressed in Section 12 below. These measures will help to control any impacts which could occur should any controls fail.
- The RD specifies that the licensee shall complete integrity testing of all bunds, buildings, storage tanks and pipework underground (including storm water drainage systems) and overground.
- Condition 3 of the RD requires the licensee to carry out a risk assessment to determine if the activity should have a fire-water retention tank.

8. Noise

The Agency received two complaints relating to nuisance noise associated with the rendering installation from 2018 to 2020.

As part of the current licence, a noise monitoring survey is carried out annually at one site boundary location and noise sensitive locations (NSL1 to NSL6) by an independent consultant. Historical data from these surveys indicate that the installation is consistently compliant with the licence limits for noise.

Given that there are sensitive noise receptors in close proximity (125m and 250m) to the installation, standard noise conditions and emission limit values will apply at noise sensitive receptors and have been included in the RD.

Figure 8.1 Noise Monitoring Points (Ref. Noise Survey, 2021)

In accordance with the EPA document *Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Scheduled Activities (NG4)* (2016), the day time ELV has been changed from 55dB LAeq to 55dB LAr, to allow for corrections for tonal noise, and an evening time ELV has been introduced.

Control Measures

The following noise control measures will reduce the likelihood of a negative impact on the environment:

- The RD imposes the standard daytime/evening/night-time limits of 55 LAr,T /50 LAr,T /45 LAeq,T dB(A) at the NSLs.
- Condition 6 of the RD requires the licensee to undertake a noise survey at NSL1, NSL2, NSL 3, NSL 4, NSL5 and NSL6 annually from the date of grant of the licence.
- Condition 6 of the RD requires the licensee to prepare, maintain and implement a noise management plan within twelve months of the date of grant of the licence.
- Condition 2.2.2.6 of the RD requires the licensee to include reduction in noise emissions as part of their environmental objectives and targets.

9. Animal By Product and Waste Acceptance

Schedule A of the RD outlines the type of animal by-products and quantities of animal by-products that can be accepted into the rendering plant. The company operate a continuous cooking process with a maximum weekly tonnage capacity of 2,625 tonnes. A daily capacity limit of 375 tonnes was provide in the existing licence P0040-02, however a daily limit increase to 450 tonnes was approved by the Agency on the 10th January 2007, on the basis that the overall weekly limit capacity would not be exceeded. The restriction of 450 tonnes per day has resulted in material not being accepted by the installation to ensure this limit is not exceeded. The company is seeking to increase the daily intake capacity to 600 tonnes as part of this review. This increase in intake capacity cannot be accommodated as it is not within scope of the review, however Schedule A of the RD allows for the daily tonnage to be varied with

the approval of the Agency subject to the total weekly tonnage limit (2,625 tonnes) staying the same.

10. Waste Generation

Certain wastes are generated on-site as part of the licensable activity. The waste generated by the existing activity is mainly comprised of treated effluent from the WWTP, waste PPE, mixed municipal waste, dry recyclables, wood and metals. In the application of BAT, Condition 7 of the licence provides for the efficient use of resources in all site operations.

The rendering processes is designed to minimise waste generation and all wastes will be stored either inside the plant buildings or in dedicated containers. The licensee employs a number of measures at the installation for the prevention and minimisation of waste. In accordance with the hierarchy specified in the IED, waste generated at the site will, in order of priority, be minimised, prepared for re-use, recycling, recovery or disposal.

Control Measures

- If dealt with in accordance with the conditions of the RD, the management of waste generated at the installation will be in accordance with the requirements of Article 11(e) of the Industrial Emissions Directive.
- There are standard conditions in the RD pertaining to the storage and management of waste/material generated by the activity.
- All waste streams will be sorted on-site prior to being collected and transported of-site by specialist waste management companies to appropriate treatment, recovery/disposal facilities.
- The RD requires that all tank, container and drum storage areas are rendered impervious to the materials stored therein.
- The RD includes conditions dealing with water and raw material use, reduction and efficiency on site.
- The RD requires that disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

11. Energy Efficiency and Resource Use

Water usage at the installation is restricted to groundwater abstraction from the neighbouring installation (P0205-02). The estimated quantity of groundwater abstracted and then utilised on the Waterford Proteins site in 2020 was 12,563 m^3/yr, a reduction of 16% from the previous year. The registration number for the groundwater abstraction is R00200-01 (5 wells in total, 1000 m^3 per well per day).

Table 11.1 Energy Use

Energy Used	**Quantity (kWh)**
Kerosene	56,485
Diesel	10,725,747
Natural Gas	66,404,585

In the application of BAT, Condition 7 of the licence provides for the efficient use of resources and energy in all site operations. The licensee will be required to establish a Resource Use and Energy Programme and conduct an energy audit which will be repeated at intervals as required by the Agency.

12. Prevention of Accidents

The operation of any activity involves a certain amount of risk to the environment and human health. The table below specifies the risks and associated safety measures relevant to this installation.

Assessment

The risk of accidents and their associated consequences, and the preventative and controls listed in the table above, have been considered in full in the assessments carried out throughout this report.

The installation will not be subject to additional controls for major accident prevention and emergency response as specified in Directive 2012/18/EU (Seveso III) as the installation does not store dangerous substances of significant quantities.

Table 12.1 Potential accidents & measures for prevention/limitation of consequences

Potential for an accident or hazardous/ emergency situation to arise from activities at the installation	• Fire explosion risks from boiler, cookers and thermal oxidiser. • Gas leaks from natural gas lines from any part of site. • Leaks from chemical, fuels, materials and product acceptance, storage or transferred. • Uncontrolled discharge from spills or leaks. • Malfunction/breakdown of abatement equipment leading to accidental emissions to atmosphere. • Run-off of spilled material into the storm water collection system. • Risk of preventative/controls failing.

Preventative/Control Measures to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident at the installation.	• Maintenance of bunding and integrity testing of bunds and pipelines. • Availability of spill kits and containment booms. • Standard operating procedures for loading/ unloading of materials. • Completion of fire risk assessment identifying following control measures - fire alarm system, fire extinguishers in key locations serviced annually, training on fire extinguishers, manned operation 24 hours per day, emergency lighting.
Additional measures provided for in the RD to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident at the installation	• Accident Prevention and Emergency Response requirements and measures in the case of an accident (Condition 9). • Integrity of tanks to be assessed every three years and maintenance carried out as required (Condition 3). • Requirement of bunds (Condition 3). • Stormwater discharge points to be visually monitored Daily and trigger levels set (Condition 6). • Environmental Management System (EMS) to be maintained (Condition 2.2.1). • Firewater Risk Assessment to be carried out (Condition 3). • An inspection system for detection of leaks on all flanges and valves (Condition 6).

Control Measures

Condition 9 of the RD requires procedures to be put in place to prevent accidents with a possible impact on the environment and to respond to emergencies so as to minimise the impact on the environment.

It is considered that the conditions of the RD and the controls proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

13. Cessation of Activity

A certain amount of environmental risk is associated with the cessation of any licensable activity. For this installation, the main considerations relate to raw materials including animal by-products, buildings, wastes, plant and equipment. A Decommissioning Management Plan and ELRA was updated and submitted to the Agency in 2018. The DMP details a range of measures to be employed upon cessation of the activity. These include:

- Decontamination and decommissioning of production plant and equipment.

- Cleaning of all production areas and direction of wash water to on site WWTP.
- Removal of raw materials and residuals to suppliers or other sites.
- Decommissioning of boilers/thermal oxidiser.
- Decommissioning of WWTP, storage sheds, bunds, interceptors, and cleaning of all lines and pipelines.
- Emptying of bunds, interceptors, cleaning of lines.
- Disposal of all wastes.

Baseline Report

Where an activity involves the use, production or release of Relevant Hazardous Substances, and having regard to the possibility of soil and groundwater contamination at the site of the installation, the IED requires operators to prepare a baseline report. The baseline report is a tool that permits, as far as possible, a quantified comparison between the state of the site described in that report and the state of the site upon cessation of activities, in order to ascertain whether a significant increase in pollution of soil or groundwater has taken place. A baseline screening assessment was undertaken by the licensee, in accordance with Stages 1 to 3 of European Commission Guidance[1].

The screening assessment determined that, taking into account the type and quantity of substances used as part of the activity, the location of these substances on the site, in view of the soil and groundwater characteristics, and the measures to be taken to prevent accidents and incidents, the possibility of soil and groundwater contamination at the site of the installation is considered to be low. A full environment assessment report including groundwater and soil monitoring for the relevant parameters was submitted. The Agency is satisfied that a full baseline report (stages 4 to 8) is not required as the required monitoring information was in the environment assessment report.

There is a 22,000 L diesel tank, 100,000 L heavy fuel oil tank and a 2,000 L Kerosene tank currently on site that are placed on hardstanding and are bunded.

The quarterly groundwater monitoring reports for 2019, 2020 and 2021 were reviewed for this assessment. All measurements are within normal levels for the parameters tested and there is no discernible trend in the data. Conductivity levels are a good indicator of water quality given the nature of the activities undertaken at the site and the conductivity readings are consistent with unpolluted water for this type of location.

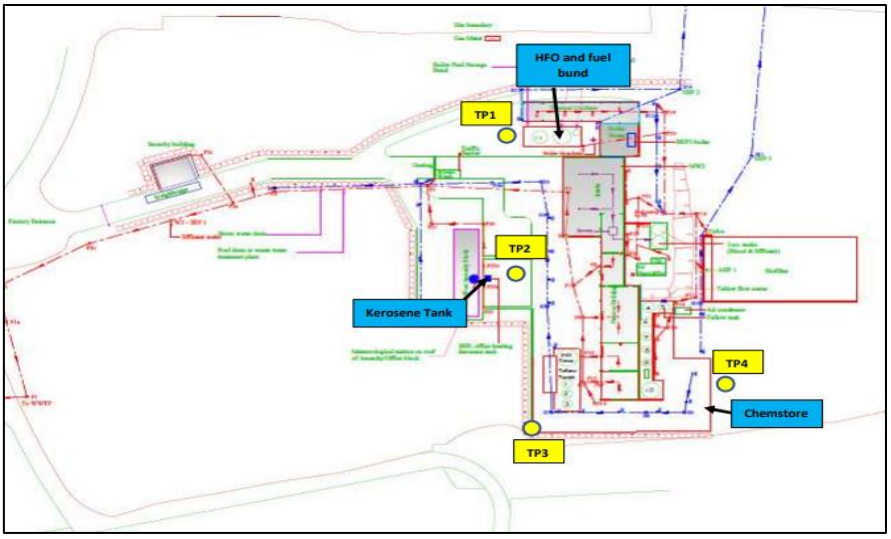
The licensee undertook soil sampling on-site at various locations (Figure 13.1 below). Laboratory analysis was undertaken of the soil samples for a full suite of parameters including metals, hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), phenol, and volatile organic compounds (VOCs). The results of soil and leachate sample analysis do not indicate the presence of significant

[1] European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions.

contamination from the relevant hazardous substances that were used, stored or disposed at the site.

Figure 13.1 Locations of the soil trial pits

(Ref. Environment Assessment Report, 2022).



It is in the licensee's interest to keep detailed records of operational practice such as inspections, maintenance, incidents, accidents and remediation under the IED. The Agency's Office of Environmental Enforcement (OEE) may refuse an application for surrender without detailed assessment and remediation proposals. Upon definitive cessation of the activities (and in accordance with Article 22(3) of the IED) the operator shall assess the state of soil and groundwater contamination by relevant hazardous substances used, produced or released by the installation.

Where the installation has caused significant pollution of soil or groundwater by relevant hazardous substances compared to the state established in the baseline report, the operator shall take the necessary measures to address that pollution so as to return the site to that state, or otherwise to take actions aimed at the removal, control, containment or reduction of hazardous substances so that the site ceases to pose a significant risk to human health or the environment. For that purpose, the technical feasibility of such measures may be taken into account.

A review of containment and control measures at the installation indicates that the risk of a contamination event occurring and the risk of soil/groundwater contamination will not be significant.

Condition 10 of the RD requires procedures to be put in place to ensure the proper closure of the activity with aim of protecting the environment. (see Fit and Proper section below for further details).

Condition 12 of the RD as drafted, satisfies and imposes all the requirements of the Environmental Liabilities Directive in particular those requirements outlined in Article 3(1) and Annex III of 2004/35/EC.

While it is possible that there could be losses of hazardous substances to soil/groundwater the risk is mitigated by the bunding, storage and fuel dispensing arrangements. In accordance with the IED, the RD requires monitoring for relevant hazardous substances in the groundwater every five years and monitoring of soil every ten years.

14. Fit & Proper Person

Technical Ability

The licensee has held a licence from the Agency since 1997. It is considered that the licensee has demonstrated the technical knowledge required.

Legal Standing

While the Waterford Proteins installation (P0040-02) has not been prosecuted to date, the licensee, Anglo Beef Processors Ireland Unlimited Company (CRO), has been prosecuted by the Agency on a number of occasions:

In May 2010 Anglo Beef Processors Ireland Unlimited Company (P0205) was prosecuted and convicted (fine of €2,000 and Agency costs awarded) for failing to notify the Agency as soon as practicable of the occurrence of an emission on the 16th March 2009 which had the potential for environmental contamination of surface water or ground water, permitting emissions to water which were of environmental significance and failing to have records of an incident that occurred available for inspection by the Agency.

In March 2002 Anglo Beef Processors Ireland Unlimited Company (P0184) was prosecuted and convicted (fine of €4,500 and Agency costs awarded) for exceedances in ELV to waters, bunding issues, failure of monitoring equipment and permitting emissions to water which were of environmental significance.

In May 2001 Anglo Beef Processors Ireland Unlimited Company (P0191) was prosecuted and convicted (fine of €3,000 and Agency costs awarded) for causing or permitting polluting matter to enter waters, exceedances in ELV to waters and the company displaying a lack of adequate management and operational practices.

In February 1999 Anglo Beef Processors Ireland Unlimited Company (P0190) was prosecuted and convicted (fine of €1,500 and Agency costs awarded) for incidents during February and March 1999 which resulted in contamination of stormwater.

Financial Provision/Strength

An updated Environmental Liabilities Risk Assessment (ELRA) and Decommissioning Management Plan was prepared for the installation and submitted to the Agency in 2018. Costs included in the ELRA have not been agreed by the Agency.

As part of this review, the installation was assessed for the requirements of Environmental Liabilities Risk Assessment (ELRA), Closure, Restoration and Aftercare Management Plan (CRAMP) and Financial Provision (FP), in accordance with Agency guidance. Under this assessment it has been determined that ELRA, CRAMP and FP were not required.

Fit & Proper Conclusion

Having regard to the provisions of Section 84(5) of the EPA Act and the Conditions of the RD, I am satisfied for the reasons set out in the Inspector's report that the licensee has the expertise and resources necessary to comply with its licence. It is considered that it would be disproportionate to refuse the licensee a reviewed licence on account of the convictions in relation to prescribed offences in 2010, 2002, 2001 and 1999 and I therefore regard it as a fit and proper person for the purpose of this review.

15. Submissions

There were 89 valid submissions received in relation to the licence review. While the main points raised in the submissions are briefly summarised in the table below, the original submissions should be referred to at all times for greater detail and expansion of particular points. The issues raised in the submissions, which have been collated below under themed headings, are noted and addressed in this Inspector's Report and the submission was taken into consideration during the preparation of the RD.

Agency assigned submission number, nature of submission and Agency response
Issue 1-Air Quality and Odour
S010361, S010439, S010446, S010452, S010454, S010455, S010459, S010460, S010462, S010469, S010475, S010477, S010480, S010481, S010484, S010485, S010494, S010496, S010497, S0I0498, S010499, S010508, S010510, S010511, S010513, S010514, S010517, S010518, S010520, S010522, S010523, S010525, S010527, S010528, S010530, S010531, S010532, S010533, S010541, S010543, S010547, S010549, S010551, S010553, S010554, S010555, S010558, S010559, S010560, S010562, S010563, S010564, S010565, S010566, S010568, S010569, S010570, S010571, S010572, S010574, S010581, S010584, S010585, S010587, S010588, S010592 S010594: S010595, S010598, S010601, S010602 (9 in total), S010614, S010618, S010620, S010621, S010623, S010633, S010634, S010635, S010644, S010676, S010675, S010683, S010728, S010729, S010732. The concerns raised are as follows: 1. The air quality and the obnoxious smell emanating from the rendering plant. 2. It can get so pungent at times that it makes people when outside/walking sick/nauseous to a vomiting point. 3. The smell can cause migraines also. 4. The windows need to be closed so the smell does not come in to the house. 5. Garden space can't be enjoyed because of the pungent smell coming from this factory and the trucks associated with the factory. 6. Can't hang clothes out to dry outside during the warmer weather when the smell is constant because the clean clothes smell of death and decay. 7. In calm weather, the heavy emissions linger and do not disperse for some time. 8. The requirement to cancel get togethers of family and friends due to the smell. 9. The gases that are omitted from the factory must be a health hazard. 10. Is there any research that has been carried out into the release of gases from the factory? 11. The requirement to block the air vents in homes to stop the smell coming into the home. 12. The smell is identifiable up to the Milepost area, Gyles Quay area, Abbey Park, Rockshire Road, Golf Links, the Quay in Waterford City, Newtown & Ardkeen area.

Agency assigned submission number, nature of submission and Agency response
13. Pupils at the local schools are constantly subjected to the smell coming from the plant and also from trucks that pass during the day releasing a sickening smell that causes nausea on a daily basis. 14. Classrooms in the local schools and local residents keep windows closed due to the pungent smell. 15. Tourists cycling in Ferrybank/Greenway almost vomit due to the smells coming from the plant and trucks. 16. How do locals sell tourism offering and the attractions of the city to visitors if one of the most notable things about a visit to Waterford will be the air pollution a visitor will experience while walking through the city. 17. There are three retirement / Nursing homes in Ferrybank all of whom carry a significant number of elderly people who have contributed to building our community - they deserve the right (some with mobility restrictions) to enjoy the outdoors and open windows for fresh air in their living quarters. 18. Having to explain to visitors/friends/communion guests that the awful smell is from the meat plant which is mortifying and can't be healthy. 19. A submitter suffers badly with their oesophagus and can get quite a lot of inflammation as a result of the odour. Vomiting from the smell can cause a lot of issues for the submitter. When the submitter gets a bad attack, the submitter has serious difficulty breathing. 20. A submitter suffers from a stomach health problem. When this smell and polluted air is released he has to close all the windows. 21. The submitters have witnessed dead meat and carcasses dumped on a concrete slab opposite a factory entrance waiting to be processed, there were at least five hundred seagulls feeding off this waste. They brought this to the attention of ABP at the time. They cannot understand why this waste is not immediately processed in a sealed factory. 22. A submitter has a medically diagnosed lung condition and also suffers from asthma attacks, so they can't risk being outdoors when the smell occurs. 23. More recently, there have been public health concerns that odour sensations themselves, or perhaps the agents responsible for odour, may in fact cause health effects. Such odours often elicit complaints of respiratory irritation, headache, nausea and other adverse symptoms. While the mechanism for the production of these effects is not known, these effects have been noted at concentrations of substances that produce unpleasant odours. Postulated mechanisms include neurological changes in sensory nerves that could influence symptom production in the absence of other toxicological effects. The following are possible solutions suggested by a submitter; Transportation: • The trailers can be sealed and incorporate an activated carbon breather to prevent the trailer over-pressurizing and also to trap any odours. • The route the trucks take: Why do they have to come through Ferrybank? Surely it makes more sense for them to turn right as they exit the industrial area and head for the Slieverue by-pass? Processing Plant:

Agency assigned submission number, nature of submission and Agency response
• Again properly stored waste with activated carbon filters are simple cost effective for odours. • Odour suppression. • Proper cleaning regime. • Making sure BAT is applied and proper enforcement. <u>Agency Response:</u> The use of a thermal oxidiser and a biofilter as odour abatement techniques is deemed BAT and is commonly used in the many rendering installations throughout the EU. The Slaughterhouse and Animal By-Product BREF is being revised and the associated Commission Implementing Decision is due to be published during 2023. Part of this process involves collaboration with industry, NGO's and regulatory bodies, taking into consideration research and real data from industry to support decision making regarding best available techniques. The thermal oxidiser and biofilter systems feature as BAT in the draft CID. The biofilter removes odour by absorbing odourous gases onto the media it contains. Condition 3 provides for the biofilter to be enclosed. The thermal oxidiser promotes a chemical reaction of the air pollutant with oxygen at elevated temperatures. This reaction destroys the VOC emission in the odourous air stream by converting it to CO_2, H_2O and heat. Condition 6 of the RD specifies the operational controls to be adhered to for the thermal oxidiser, (temperatures to be maintained above 750^oC at all times (excluding start-up and shutdown-700^oC), with a retention time of 2 seconds,). Schedule B of the RD specifies that the chamber operating temperature of 850^oC shall be maintained as a minimum when using tallow as a fuel. Condition 6 of the RD requires the licensee to submit to the Agency for agreement, a test programme for the use of the thermal oxidiser and biofilter. The test programme is required to establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in the RD and also assess the performance of the abatement equipment. Schedule C of the RD outlines monitoring and control requirements for both abatement units. The licence review process included modelling of the emissions to atmosphere to determine the potential for off-site impact. In this study the worst-case scenario was presented i.e. maximum exposure to the highest concentrations of compounds for the maximum period of time under the worst meteorological conditions. The findings of each study found that the emissions to air from the activity would not lead to a breach of any air quality standard or indicative odour standard (at the nearest sensitive receptor) nor would it lead to any negative effect on human health. The RD provides that emissions may be made from the specified emission points subject to compliance with the Emission Limit Values (ELV's) specified in Schedule B and the control and monitoring requirements set out in Schedule C. The RD also requires a daily odour survey and an odour management plan. With regard to the impact on local amenities and tourism, the modelling confirms that the operation, monitoring and control of the thermal oxidiser and biofilter as required by the licence to achieve the limits specified in the licence will not lead to a deterioration in air quality in the vicinity of the plant and will not impact on human health. In any case, Condition 5 requires that the emissions from the activity, including odours and dust, shall not result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary

Agency assigned submission number, nature of submission and Agency response
The RD as drafted provides for very strict controls and procedures to ensure that the animal by-products accepted on-site meets defined criteria and is handled in a manner that will not pose a threat to human health or the environment. How animal by-products are handled and controlled are stipulated in the *European Union (Animal By-Product) Regulations, 2009 as amended.* Condition 8 of the RD requires that waste and materials shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The RD under condition 3 and 6 specifies the requirement for building integrity and how negative pressure shall be maintained when storing and processing this material. Issues in relation to odour associated with truck movements is addressed in submission issue no. 5 & 14 below. Please refer to *Section 7: Emissions to Air* for more comprehensive discussion on emissions modelling and setting of ELVs in the RD.
Issue 2-Odour Abatement System
S010459 The concerns are as follows: The Environmental Health Service and Environment Section of Kilkenny County Council recommends that the EPA are satisfied that current odour mitigations measures and odour abatement systems have the capability to address any potential increase in odour emissions arising as a result of this increased volume of raw material. <u>Agency Response:</u> The company operate a continuous cooking process with a current allowed intake capacity of 450 tonnes per day, with a maximum weekly allowed intake capacity threshold of 2,625 tonnes. This intake capacity threshold was approved by the Agency on the 10th January 2007. As part of this Agency initiated review the licensee requests the daily intake capacity to increase to 600 tonnes per day with the overall weekly intake capacity remaining at 2,625 tonnes. This request cannot be accommodated as it is not within scope of this review, however Schedule A of the RD allows for the daily tonnage to be varied with the approval of the Agency subject to the total weekly tonnage limit (2,625 tonnes) staying the same. As outlined for Issue no. 1 above, the licence review process has involved modelling of worst-case scenario emissions to atmosphere that could arise from the thermal oxidiser, biofilter and boiler. The findings of the study found that the emissions to atmosphere from the activity, at the limits proposed in the RD, would not lead to a breach of any air quality standard or indicative odour standard (at the nearest sensitive receptor) nor lead to any negative effect on human health. I am satisfied that the use of a thermal oxidiser and a biofilter as odour abatement techniques is deemed BAT and can achieve the limits specified in the RD. I am also satisfied that there are sufficient monitoring and control requirements in the RD to monitor and respond to any potential odour issues, e.g., the maintenance of an odour management plan, weekly odour survey, comprehensive monitoring and control requirements in relation to the abatement and associated emissions. Please refer to *Section 7.1: Emissions to Air* for more comprehensive discussion on emissions modelling, the setting of ELVs in the RD and the odour controls in place.

Agency assigned submission number, nature of submission and Agency response

Issue 3-Biofilter

S010459, S010644, S010683.

The concerns are as follows:

The biofilter is open with the top of the woodchip a few metres above ground level. Consistent and persistent odours from the biofilter were noted on the access road to the south, 120m away. The submitters suggest subject to planning that an enclosed Biofilter system be considered, with further controls prior to venting to the atmosphere.

Agency Response:

Condition 6 of the RD requires the licensee to prepare a test programme for all abatement equipment installed to abate emissions to atmosphere. Any test programme must, as a minimum, establish criteria for operation, control and management of the equipment and also assess the performance of the abatement equipment. Schedule B in turn specifies the ELVs that are to be achieved at the outlet to each emission point to atmosphere and the frequency of monitoring required. It is considered that the measures specified in the RD provide a very high degree of protection to the environment and human health of those living in the vicinity of the Waterford Proteins installation. As an additional measure the RD specifies to enclose the biofilter, whereby the abated gases will be extracted from a 10m stack at the top, within 6 months of the date of grant of licence. Odour modelling carried out as part of this review demonstrates that with these measures, the indicative odour standard at the nearest sensitive receptor will not be breached. Please refer to *Section 7.1: Emissions to Air* above for a more comprehensive discussion on this point.

Issue 4-Odour Assessment

S010361, S010140, S010459, S010621, S010683, S010484, S010728, S010869.

The concerns are as follows:

1. There was a request to install a constant air monitoring station at a suitable close location to detect any plume infringement.
2. The Environment Section of Kilkenny County Council has noted that in the ABP report called "Receiving Environment Report" submitted as part of the documentation for P0040-03, there is no reference made to odour impact on the surrounding environs.
3. It is recommended that a weekly odour monitoring programme is undertaken at the northern and north eastern site boundary during the summer months (June to September inclusive) to assess the long-term maximum odour concentrations at these locations and to verify the effectiveness of on-site odour mitigation measures.
4. The operation of the thermal oxidiser requires significant fuel load and it is stated in attachment 9D that it uses 6,206,036m^3 of gas per annum and that the back-up boiler uses 988,762 litres/annum diesel. The plant efficiency depends on the running costs, of which the fuel load is critical. There are

contradictions within the applicant documents regarding the efficient operating temperature of the thermal oxidiser which impact odour and air emissions. Applicant attachment 9H, SOP Main Odour system (6th October 2022), under section 'start up procedures' states that the thermal oxidiser must be at operating temperature 850°C before commencement of processing. Under the information submitted under attachment 9F(i) the applicant argues that the thermal oxidiser can operate for complete odour destruction at temperatures of 700°C with a subsequent fuel reduction of 15%. If the reduced TO operating temperatures result in increased odours this cannot be acceptable as part of the licence review.

5. The thermal oxidiser process flow chart shows that the system has a through-put of 20,000kg/h. This figure needs to be clarified by the licensee. If the 20 tonnes/hour is the capacity of the thermal oxidiser then the plant would have to operate on a 24 hour shift.
6. Volatile organic compounds (VOCs) are generated from animal rendering facilities, some of which are malodorous, while others are considered hazardous. The submitter states that odour annoyance potential, possible carcinogenic risks, and toxic effects due to VOC emissions from a rendering plant unit in Southwest Greece were evaluated (nine air samples over nine months) for the general population residing in the near vicinity.. Volatile compounds were absorbed onto solid sorbents containing Tenax TA/Sulficarb via active sampling and analyzed by thermal desorption-gas chromatography-mass spectrometry (TD-GC-MS). 63 organic compounds, mainly volatile fatty acids, aldehydes, aromatic, and sulphur compounds were quantified, in concentrations ranging from < 0.01 to 210μgm^{-3}. The compounds contributing most to odour nuisance were butanoic acid, dimethyl trisulfide, and octanal, exceeding their odour threshold by up to 24, 36, and 117 times, respectively. Cancer and non-cancer risks were determined by a probabilistic risk assessment method. The cumulative lifetime cancer risk for the general population was calculated to be on average 10 times higher than the acceptable risk (one-in-a-million). The cumulative mean hazard quotient indicated a high risk of adverse health effects. Control measures to prevent the generation of the VOCs responsible for both odour nuisance and potential adverse health effects should be adopted.

   The submitter asks are Air Quality samples being taken in Ferrybank and Waterford for the presence of VOC emissions? Which body or authority are charged with taking them? Are the samples being checked by an independent body/group, and where are the results displayed? Having spoken with an expert in the workings of a thermal oxidizer and biofilter, the submitter understanding is that they work 'fairly well' if maintained in an optimum condition, but that the regular maintenance can be costly. Is the EPA in charge of monitoring the emissions, and are the results independently accessed and reported? The submission requests to install a constant air monitoring station at a suitable close location to detect any plume infringement.

Agency Response

The impact of the odour on the surrounding environs was assessed in the odour dispersion model. This was submitted on the 11th of November 2022. The impact of

Agency assigned submission number, nature of submission and Agency response
VOC emissions was addressed in the Air Dispersion Modelling report submitted 6th of October, 2022. In this study, the worst-case scenario was presented, i.e., maximum exposure to the highest concentrations for the maximum period of time under the worst meteorological conditions. The findings of each study found that the emissions from the activity would not lead to a breach of the applicable air quality standard or indicative odour standard (at the nearest sensitive receptors). As outlined for Submission Issue No. 1 above, the thermal oxidiser promotes a chemical reaction of the air pollutant with oxygen at elevated temperatures. This reaction destroys the VOC emission in the odourous air stream by converting it to CO_2, H_2O and heat. Condition 6 of the RD specifies the operational controls to be adhered to for the thermal oxidiser (temperatures to be maintained above 750°C at all times (excluding start-up and shutdown-700°C), with a retention time of 2 seconds) and requires the licensee to submit to the Agency for agreement, a test programme for the use of the thermal oxidiser and biofilter. The specified running temperature of 750°C aligns with the draft BAT conclusions of the Slaughterhouse/Animal By-Product BREF. The chamber operating temperature of 850°C shall be maintained as a minimum when using tallow as a fuel. The test programme is required to establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in the RD and also assess the performance of the abatement equipment. Schedule C of the RD outlines monitoring and control requirements for both abatement units. Condition 6 of the RD also requires an odour survey of site operations to be undertaken daily. The process flow chart submitted on the 6th October 2022 demonstrates that the system has a through-put of 40,000 kg/h (20,000kg/hr cooker, press and sterilizer and 20,000kg/hr from combustion air from the cooking area). The thermal oxidiser operates continuously at a constant rate. The RD specifies a maximum volume to be emitted from the thermal oxidiser of 3,600,000 Nm^3 per day. Condition 5 of the RD states that no emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary. The RD also requires quarterly/biannual monitoring of odour and TVOC, from the relevant stacks, a daily odour survey and an odour management plan. Please refer to *Section 7.1: Emissions to Air* above for a more comprehensive discussion on this point.. It is considered that the monitoring and control requirements specified in the RD are extensive, in keeping with best practice for a rendering installation and sufficient to verify the effectiveness of on-site odour mitigation measures deployed on site. Air quality ambient monitoring in Ireland is undertaken by EPA from a network of monitoring stations, in partnership with a number of local authorities, third level institutions and state agencies. This monitoring is undertaken primarily to meet the requirements of the Ambient Air Quality and Cleaner Air for Europe Directive (CAFE), the 4th Daughter Directive and national implementing regulations. Under the National Ambient Air Quality Monitoring Programme 2017-2022, the national monitoring network is being expanded significantly. A monitoring station has been deployed at Brownes Road in Waterford; this station monitors a number of specified air quality parameters including particulates and inorganic gases (CO_2, CO, SO_2 and NO_2). Plans are underway for a second monitoring station to be deployed in

Agency assigned submission number, nature of submission and Agency response
Waterford City in the near future; this station will be traffic-oriented and monitor particulates and inorganic gases (CO_2, CO, SO_2 and NO_2).
Issue 5-Odours and spills from unsealed/unrefrigerated transport containers
S010460, S010462, S010452, S010475, S010481, S010484, S010485, S010496, S010494, S010497, S010511, S010510, S010508, S010514, S010518, S010528, S010527, S010525, S010523, S010522, S010533, S010532, S010531, S010530, S010543, S010541, S010549, S010547, S010555, S010558, S010559, S010562, S010566, S010572, S010581, S010595, S010598, S010601, S010602 (9 in total), S010614, S010618, S010621, S010633, S010634, S010644, S010683, S010728, S010728. The concerns are as follows: 1. Toxic gasses and waste juice is being spilled from these trucks along the same road as mentioned where school children are exposed to the potential risk of ingesting these toxic juices by method of transfer (it's on their shoes and therefore gets brought into the home environment). 2. Domestic animals in the area are also at risk of ingesting this toxic juice from these trucks. 3. Lorries carrying oozing remains of dead animals travel the road to and from the plant several times a day. 4. Drivers behind these trucks on a daily basis see the trucks merely covered with tarpaulins with liquids flowing from the trucks. 5. Animal remains regularly end up on the road and paths (including pathways by schools used by children). 6. The lorries pass schools and businesses on a daily basis and the stench is a serious nuisance for our area. 7. The last two Kilkenny County Council development plans included a reference to the rendering plant in Ferrybank and said that the preferred option was that the plant be moved to a different area. One suggestion to put forward is that it be moved to Belview Port instead as it has an adequate sewage and water supply system there. 8. Having to close car windows driving to and from home due to heavy trucks full of animals and sewage spewing out the back and the fumes from that and their exhausts. 9. The lorries bringing the dead carcasses should be sealed containers to contain the smell of decaying carcasses. 10. The bad smelling trucks on the road, in the morning and evening both going to the plant and coming from the plant, when out walking or being behind one when driving is very unpleasant. Not all the trucks seem to follow the correct procedures for moving hazardous waste. Hazardous waste left behind on the road. (The same road which is used by children to walk to school and home).

Agency assigned submission number, nature of submission and Agency response
11. Refrigerated trucks are not being used to transport animal products which leads to an incredibly disgusting odour which lingers in the air for hours and has directly impacted people's summer and people's home. 12. The submission has concerns about street contamination, especially on a pedestrian crossing at the top of Fountain Street in Ferrybank, Co. Kilkenny. The ongoing waste trucks is unbearable and unnecessary to the environment and community. 13. The EPA will of course say that this is a Dept of Transport issue and that they are only interested in the operation of the plant. However, this is not good enough. The entire operation should be under scrutiny because the plant cannot operate unless they are supplied with raw material and the EPA should be looking at the environmental hazards emanating from the trucks as well. 14. The hazardous nature of the material being transported through a residential area passing schools, homes for the elderly and places of worship. Agency Response: The RD requires under Condition 8 that: • All vehicles, trailers and containers used for the transport of animal by-products to the site of the activity shall be totally enclosed. The design shall be such as to minimise the emission of any nuisance odour or spillage or any liquid or solid matter. All such receptacles and any associated sheeting or covers shall be impervious and maintained in a clean condition. • Maintenance of a programme to ensure that all vehicles, trailers and containers transporting animal by-products to or from the site of the activity are adequately contained and covered. • All vehicles, skips or containers used for removing meal from the site, shall be designed constructed and operated so as to minimise the emissions of offensive odour and spillages of meal. • Meat and bone meal and/or tallow oil derived from the processing of animal by-products destined for removal off-site shall be transported in sealed covered containers or vehicles in such a way as to prevent loss or spillage. • All vehicles, trailers and containers used for the transport of animal by-products and blood to the site of the activity shall be washed down and shall have their coverings refitted prior to leaving the confines of the animal by-products intake building. All vehicles shall pass through a wheel wash after exiting the material intake building and prior to leaving the site of the activity. • On-site, the RD requires that all animal by-products are processed within twenty four hours except for Public Holidays. • All lorries for animal by-products are offloaded within the negative pressure zone of the raw material building into the intake hoppers. The transport trucks are not required under regulation to be refrigerated. The *European Union (Animal By-Product) Regulations, 2011 as amended* stipulates requirements for the movement of animal by-products. As the competent authorities pertaining to these regulatory requirements, the Department of Agriculture, Food and Marine (DAFM) and relevant Local Authorities are responsible for licensing and

enforcement of the transportation of the animal by-product and should be contacted if any off-site vehicles carrying animal by-products are unsealed.

Issue 6-Suitability of Odour Standard

S010361, S010446.

The concerns are as follows:

The submission requests to advise if Odour Standard 1.5 OU_E/m^3 is fit for purpose and if the odour standard and any other standard threshold has been respected.

Agency Response:

In accordance with the Agency's Odour Emissions Guidance Note (AG9) the odour standard of 1.5 OU_E/m^3 as a 98%ile of hourly averages at the worst-case sensitive receptor is the appropriate standard based on the offensiveness of odour from this type of activity.

Issue 7-WWTP Capacity

S010140, S010459, S010644, S010869.

The concerns are as follows:

1. The licensee should ensure that the existing WWTP at the neighbouring installation (ABP Ireland Unlimited Company P0205-02) is suitably constructed to cater for the anticipated reduction in wastewater volume and that this proposed reduction will not negatively impact on the operation and performance of the WWTP.
2. A reduction in the quantity of waste water being discharged to the waste water treatment plant across the road is proposed. However, the pollutant load of the discharge will increase due to a reduction in dilution. The EPA should assess the change in waste water discharge to ensure that the final discharge to the Suir Estuary still meets the licence requirements and that there is sufficient assimilation capacity in the River Suir.

Agency Response:

The licensee submitted a letter dated 11th November 2022 detailing that the off-site ABP Ireland Unlimited Company WWTP (P0205-02) will not be negatively impacted by the proposed change in waste water volumes discharging into it from the Waterford Protein site. While a new discharge from the Waterford Protein site (W1-CEP1) has been added (100m^3/day), an equivalent volume reduction has been made at W1-SEP1 (400 m^3/day to 300 m^3/day), so that overall, the total volume to be discharged to the ABP Ireland Unlimited Company WWTP remains unchanged (400m^3/day). There will be no change in concentration limits for BOD (5,000 mg/l) and SS (1,500 mg/l) at SEP1. The RD sets limits at the new W1-CEP1 for flow (100 m^3/day), temperature, pH and chemical oxygen demand (COD) (Table 7.6). It is noted that emission point W1-CEP1 has been in operation since the thermal oxidiser was installed.

Limits were set under Licence Reg No. P0205-02 for the purposes of protecting the receiving water body from the discharge of treated effluent from that plant. The

assessment for Licence Reg No. P0205-02 took into account the effluent discharging into the WWTP from the Waterford Proteins site. There have been no exceedances of emission limit values for wastewater emissions under Licence Register No. P0205-02. The WWTP has been designed with a capacity to treat and discharge in excess of 1200m^3/day of wastewater effluent. The plant is currently operating at half this capacity with an average daily discharge of approximately 600 m^3/day. The daily volume of process effluent discharged from Waterford Proteins to the WWTP remains at 400 m^3. ABP Ireland Unlimited Company, Reg. No. P0205-02, have confirmed that the discharge from Waterford Proteins will not negatively impact the organic loading and hydraulics at its wastewater treatment plant.

I am satisfied that the discharges from the Waterford Proteins site, when in compliance with the RD, will not negatively affect the performance of the WWTP at ABP Ireland Unlimited Company (Reg. No. P0205-02) or cause an exceedance of the ELVs specified therein.

Issue 8-WWTP Holding Tanks and Associated Drains

S010446, S010452, S010480, S010481, S010623, S010869.

The concerns are as follows:

1. There are two holding tanks across the road on the river side and the smell emanating from these on a daily basis is disgraceful. These tanks are not even sealed but only have tarpaulins on them.
2. The submitter lives opposite this factory and see lots of seagulls at their drain pipe on the river and cannot imagine that's a good thing.
3. The submission has concerns that the water that reaches their households gets somehow polluted by any liquid waste the plant might generate.
4. The large blue holding tanks on the riverbank are also a huge source of odours but seem to be beyond monitoring or licence? What happens when these are full? The infrastructure is creaking and regularly results in sewage pipes bursting between the rendering plant in question (that wishes to expand by 60%) and these blue holding tanks. This is not regular sewage. This is the most toxic by-product of a rendering system. Who monitors this? Is anything being pumped into the river? If so who monitors what is in this sludge? The Estuary is currently being massively polluted and the EPA don't know the source.
5. There are contradictions on file relating to intake rates. The letter on file, Attachment 7, 6th October 2022, states that 'the increase daily intake of 600 tonnes' will not impact the performance of the WWTP. If the applicant is providing contradictory data as part of the review process this needs to be addressed as part of the review.

Agency Response:

The Waterford Proteins licence P0040-02 does not have a WWTP on site. All the effluent generated from the activity is discharged to the neighbouring site (ABP Ireland Unlimited Company P0205-02) where it is treated fully to meet strict emission limit values specified in Licence Reg no P0205-02 and is then discharged to the River Suir. The discharge to surface water from Reg. No. P0205-02 is not within scope of

Agency assigned submission number, nature of submission and Agency response
this review. The inspector notes there are no large blue holding tanks within the Waterford Proteins installation boundary. The company operate a continuous cooking process with a current allowed intake capacity of 450 tonnes of animal by-products per day, with a maximum weekly allowed intake capacity of 2,625 tonnes. The proposed increase in daily intake from 450 tonnes to 600 tonnes is not provided for in the RD. However, Schedule A.1 of the RD allows the daily tonnage limit to be varied with the approval of the Agency, subject to the weekly tonnage limit of 2625 tonnes staying the same. It is considered unlikely that any increase in daily intake to the intake area would significantly affect the emissions to the WWTP as the cooker is fed at a constant rate over a 24 hour period. In any case, there are limits on flow and parameters on the discharge to the WWTP, as per *Schedule B.3 Emissions to Waste Water Treatment* of the licence, which must be adhered to at all times. Condition 8 of the RD details the measures to be taken in accepting, handling and storage of wastes on-site. These requirements are very prescriptive and control tightly how wastes shall be managed within the installation. All waste materials shall be housed indoors, in bunded structures or on hard standing areas. Condition 6 requires the licensee to test the integrity and water tightness of all tanks, bunding structures, containers and underground pipes at the installation. This must be undertaken at least once every three years. Condition 3 requires the licensee to ensure that all air emissions from on-site tallow tanks, effluent tanks and blood storage tanks are vented by specific extract to a suitable air abatement plant. The requirement to complete odour surveys and to maintain an odour management plan provide additional mechanisms to ensure that any tanks on site found to be odourous will be appropriately addressed. It is considered that the measures specified in the RD will provide a high degree of protection to the water in the vicinity of the ABP Ireland Unlimited Company (Reg. No. P0040-03) installation.
Issue 9-Complaints , Compliance and Enforcement
S010361, S010484, S010511, S010513, S010547, S010562, S010563, S010728, S010729. The concerns are as follows: 1. Concerned about their ability to follow safety standards and the number of breaches in regulations in the past. And their ability to cope with new expansion in the future and the health risks it poses for the area. 2. The submission requests to provide a log of all non-compliances of the thermal oxidiser at ABP Ireland Unlimited Company (Reg. No. P0040-02) over the last 12 months. 3. The EPA have stated that the plant is complying with the conditions of its licenses. Perhaps more random checking is required by the EPA rather than just calling to the plant by appointment and less cumbersome means of logging complaints to the EPA should be considered.

Agency assigned submission number, nature of submission and Agency response
4. How often are the EPA down here monitoring the situation in terms of the stench and emissions. The submitters think it's high time that proper checks are put in place where that plant is concerned. 5. Don't have much faith in 'Site Visits' as it seems that they need to be arranged prior to the visit, so that surely gives the plant plenty of time to get the plant looking spic and span? Are 'any' visits carried out without prior notice, and if so, given the seriousness of the situation for our area, why is that the case? 6. The plant needs to be monitored by the EPA and run according to tight existing regulations. The existing problems with the stench from the plant and the trucks needs to be fully controlled before the licence is renewed. 7. For years the submitters have been told that the rendering plant is fully compliant and are not breaking any laws. The submitters heard the same thing again on WLR FM recently when a community representative was told the same thing. The interviewer said that the radio station had contacted the EPA and had been told that "the plant was fully compliant and not breaking any laws". 8. It is evident that the EPA is incapable of ensuring adequate and proper monitoring of emissions from the plant and enforcement has no effect when transgressions are detected. 9. It would appear that the current monitoring and control of emissions from the ABP Ireland Unlimited Company (Reg. No. P0040-02) plant are completely inadequate and that these inadequacies need to be addressed as a matter of urgency. 10. Concerns of failing pre-announced inspections. 11. The plant needs to be rigidly monitored by the EPA and the existing problems with the stench from the plant and the trucks needs to be fully controlled before the licence is renewed. There's no way they should be allowed to increase production. I'd really like to know where the extra material is coming from. Ferrybank is going to end up as the dumping ground for the South East if this goes ahead. 12. This does not look like compliance. Pictures submitted show what people in the area have to put up with and people should not have to put up with this in a today's society. 13. That the EPA investigate practices at the plant, appreciate the anxiety and upset such toxic odours cause to local residents and seriously consider whether it is appropriate for such toxic and industrial practices should be conducted adjacent to a high-density residential area. 14. At the very least, the plant should be properly monitored and 'non-prearranged' visits carried out on a regular basis. Following that, the plant should be forced under law to clean up its act and keep it that way. 15. Very many of the residents have given up voicing their concerns as nothing seems to improve the situation. They remember years ago that a lot of objections went in to prevent the plant getting a licence, but it was approved by the EPA nonetheless. 16. One consistent complaint from residents over that time has been the stench from both the trucks and the plant. The submitter always advised residents

to make a complaint and to call the plant directly. However, it has been his experience that residents rarely take the time or make the required effort in order to properly log a call to the plant or follow it up by complaining to the EPA. People are busy with their lives/work and once they post their comment on the community Facebook page, they leave it at that. In a lot of cases people simply don't know how the complaint process works etc. The point is that just because not many 'official complaints' are recorded, that certainly does not mean that there isn't a serious issue in our area.

17. Another reason for the lack of complaints is that a lot of parents are reluctant to do so as they feel that the Waterford Proteins company supports the local clubs and that their children benefit from that sponsorship by way of obtaining free training and games etc.
18. The usual response from the EPA to contact the company is also ridiculously outdated and puts the responsibility on individual citizens to sort this out and which has obviously failed - as demonstrated by the continuance of the smell nuisance.
19. Many complaints and public meetings have taken place over the years and nothing has improved.
20. The estate in question is technically in County Kilkenny, but is managed by Waterford City & County Council. Waterford City & County Council use to have a community officer in an office on our estate, but a number of years ago that was ended. Submitters often held meetings with that council person in order to see if anything could be done. The submitters have also engaged with various Councillors over the past twenty years to no avail. We would ask that the EPA take a serious look at the 'on the ground' situation here in Ferrybank before either renewing the licence or allowing the production to increase
21. Clear instructions need to be sent to residents so that they are aware of the proper complaint process. (As in, calls to the plant, EPA, Dept Of Agriculture and/or 'which' Local Authority?) Even when you send in a complaint, it seems it achieves little or nothing in way of change, which can be very frustrating.
22. Another point of frustration for residents is that when they complain about the trucks, they are told by the EPA that they are not responsible, just for the plant itself and that the trucks come under the authority of the Dept of Agriculture. In other cases, it seems that they are told by the Department of Agri that it's the local authority who are responsible. Ferrybank has sections under Waterford City & County Council, and still others under Kilkenny County Council, so you can see where it can become confusing for residents. There's also a deep-rooted pessimism in that residents feel that there's no point in complaining as nothing ever seems to improve.

Agency Response:

The Agency takes a very proactive role in ensuring that all licensed installations are compliant with permits issued under its remit. For the period 2013/2023 (to-date) 54 site visits have been undertaken at the installation by various offices of the Agency. These activities resulted in 1 compliance investigation being opened. This level of enforcement and monitoring will continue, in line with the Office of Environmental Enforcement's (OEE) priority listing, to ensure compliance with the terms of the RD. The public can access the complaints and compliance history of the installation

Agency assigned submission number, nature of submission and Agency response
P0040-02 via the LEAP system in all EPA regional offices. All members of the public can submit a complaint via the EPA website, in writing, to EPA offices or by phone. All complaints are assessed, investigated and appropriate corrective actions are put in place. Condition 11 of the RD requires the licensee to record all complaints of an environmental nature related to the operation of the activity. The record shall include the date and time of the complaint and give details of the nature of the complaint. A record of the response to the complaint must also be maintained. A summary of the complaints received in a given year and other compliance information is provided in the Annual Environmental Reports for the installation, which is available on the EPA website. *Schedule C: Emission, Monitoring and Control* of the RD outlines the monitoring regime to be undertaken in order to measure emissions to air and water from the installation. The level of monitoring required is extensive and in keeping with best practice for a rendering installation. Additionally, the Agency also undertakes compliance visits to monitor air/odour, water and noise emissions from the activity. All monitoring undertaken is required to be reported to the Agency as per *Schedule D: Annual Environmental Report* of the RD. The RD requires a public awareness and communication programme to be put in place. This will ensure that members of the public are informed, and can obtain information at the installation, at all reasonable times, concerning the environmental performance of the installation. The Public Awareness and Communication Programme shall include a specific programme of outreach to interested local residents on matters relating to the prevention of nuisance, including odours and noise and other factors at the installation. Section 14 of this report examines whether the licensee can be considered to be 'fit & proper' for the purposes of holding an IE licence from the Agency. This examination looks at areas such as the licensee's technical ability to comply with the licence, their legal standing in terms of convictions under the relevant legislation and also whether sufficient financial provisions are in place in the event of an emergency or closure of the installation. In examining each of these headings it was deemed that the licensee met the standard required under each heading and as such are considered to be fit and proper persons to hold an IE licence. The EPA regulate the activity within the installation boundary. The movement of trucks outside the installation boundary is regulated by the DAFM and Local Authorities, who are responsible for licensing and enforcement of the transportation of the animal by-product in accordance with the *European Union (Animal By-Product) Regulations, 2011 as amended*. Further detail on the issue of odour and spills from trucks is provided in Submission Issue No. 14 above. It is noted that while the address of the installation is Co. Waterford, it falls within the remit of Kilkenny County Council.
Issue 10- Reduce noise levels
S010140, S010480, S010481, S010549, S010644. The concerns are as follows:

Agency assigned submission number, nature of submission and Agency response
1. At certain times of the night, in particular, the noise emissions are akin to a jumbo jet on a low path overhead. There has been an escalation of noise over the past year or two. 2. It is recommended that best practice is adopted in the operation of the installation to ensure that noise levels from the installation are minimised. Agency Response: The installation is required to comply with BAT and the current BREF which list techniques to reduce noise levels. The main sources of noise at the installation include movement of raw materials, movement of staff, exhaust fans, cookers and traffic. A number of noise monitoring surveys have been undertaken in recent years and have not detected noise levels in excess of the limit values specified in Schedule B.4. Schedule C of the RD also specifies an annual frequency for noise monitoring and Condition 6.9 allows for this frequency to be amended as required or approved by the Agency following evaluation of test results. Section 8 of the IR comprehensively addresses noise emissions from the installation and the noise limits applied in the RD.
Issue 11-Location of Noise Monitoring Points
S010140 The concern is as follows: It is recommended by the EHS that consideration be given to relocating the monitoring points to noise sensitive locations in order to ensure that limits applied in the licence are applicable. Agency Response: The RD specifies noise sensitive locations for compliance and monitoring purposes in Condition 4.5, Schedule B and Schedule C.
Issue 12-Increase in Production & Planning Permissions
S010446, S010452, S010459, S010481, S010480, S010510, S010508, S010513, S010522, S010523, S010530, S010531, S010532, S010533, S010541, S010549, S010551, S010556, S010559, S010562, S010563, S010564, S010553, S010554, S010555, S010560, S010565, S010566, S010568, S010569, S010570, S010572, S010574, S010581, S010584, S010585, S010592, S010594: S010595, S010598, S010601, S010602 (9 in total), S010614, S010618, S010620, S010621, S010623, S010644, S010683, S010728, S010729, S010869. The concerns are as follows: 1. The proposed increase in production by 60% (375 tonnes per day to 600 tonnes per day). They believe the scale of the site is already too big for its setting in a mainly residential area. 2. At the very least the issue of the stench needs to be properly fixed way in advance of any increase in production.

Agency assigned submission number, nature of submission and Agency response
3. The Planning Authority recommends that the EPA request the licensee to provide proof that the required planning permission is in place to facilitate the significant intensification of use before granting any IE licence. 4. That the EPA request the licensee to provide proof from the planning authority that planning permission is not required before the biofilter is enclosed and emission stack installed. 5. There was a planning application years ago as well. Again, objections were sent in but An Bord Pleanála approved it. 6. This plant, its current operating impacts, as well as its plans to expand to an additional sixty per cent throughput of offal, will have a detrimental and negative effect on the €13.5 million Waterford to New Ross, South East Greenway, that is due to open in early 2023. Agency Response: No proof of grant of planning permission for an expansion was submitted to the Agency and the licence review does not allow for an increase in intake of material. The company operate a continuous cooking process with a capacity of 450 tonnes per day, with a maximum weekly tonnage of 2,625 tonnes. This capacity was approved by the Agency on the 10th January 2007. As the company state they have adequate intake capacity (in excess of 600 tonnes per day), the company is seeking to increase the daily intake capacity to 600 tonnes in this review. This increase in intake capacity cannot be accommodated under this review as it is not within scope of the review. The RD limits Waterford Proteins to accepts the maximum quantity of 2,625 tonnes per week (tpw). Should Waterford Proteins wish to increase this weekly intake or annual intake at any time in the future they will be required to apply for a review of their Industrial Emission licence. This will afford members of the public and other interested parties the opportunity to make their views known at that point should the scenario arise. To date there has been no indication that such a scenario is imminent. As detailed in *Issue 3 – Biofilter* above, the RD stipulates that the licensee shall permanently enclose the biofilter, whereby the abated gases will be extracted through a stack, within six months of the date of grant of the licence, unless otherwise approved by the Agency. In accordance with Section 87(1A) of the EPA Act, the requirements of Section 87(1B) to (1I) of the EPA Act (in relation to planning and EIA requirements), do not apply to Agency initiated reviews. The licensee is obliged to ensure that any proposed development on site complies with the requirements of the Planning and Development Act 2000.
Issue 13-Type of ABP
S010484 The concerns are as follows: The Ferrybank rendering plant 'Processes Category 1 Animal By Products'. Category 1 animal by-product (ABP) is the highest risk to public health. Category 1 ABP should be disposed of at an approved incineration or co-incineration site." Agency Response:

Agency assigned submission number, nature of submission and Agency response
This installation is authorised by the Department of Agriculture, Food and Marine (DAFM) to render Category 1 Animal By Products in accordance with the *European Union (Animal By-Product) Regulations, 2009 as amended.*
Issue 14- Traffic external to site
S010455, S010460, S010497, S010498, S010541, S010555, S010558, S010581, S010595, S010602 (9 in total), S010618, S010621, S010633, S010635, S010644. The concerns are as follows: 1. Residents pass the factory trucks on the road and watch nervously as cyclists wobbled dangerously, trying to steer one handed, the other hand over their nose and mouth. 2. There are also workers travelling to and from the factory on the very narrow Abbey road using e-scooters and bicycles that narrowly escape being run down by the massive trucks passing to go to the factory. 3. The hundreds of school children who walk, cycle or scoot to their primary and secondary school located on the same road, are in danger of being knocked down by these trucks on a daily basis because the path is too narrow for two people to stand side by side. 4. The speed some of the trucks do coming down that factory road too is a worry and an accident waiting to happen. There is not sufficient infrastructure in place to safely allow the traffic the plant brings. 5. The trucks bound for Waterford Proteins cannot navigate the bends adjacent to the church at the top of Abbey Rd without crossing the continuous white line on the road forcing oncoming traffic to stop or make evasive manoeuvres. 6. The trucks entering either the installation double park on the road not allowing anyone to go by. Agency Response: Issues in relation to traffic were assessed by the relevant Planning Authority when considering the planning applications for the development. Any traffic issues outside of the installation boundary are not within the remit of the Agency.
Issue 15-Requirement of EIS
SO10439, S010446, S010469. The concerns are as follows: 1. that the odour oxidizer did not obtain an EIS. 2. that an EIA be completed for the whole activity. 3. that an environmental impact study is carried out to stop this atrocious situation, as the air we breathe in belongs to everybody, and not just to the above mentioned plant to fulfil their economic interests. Agency Response: An Environmental Impact Assessment Report (EIAR) was not submitted alongside the licence review form as part of the Agency licence review process. As this is an Agency initiated review the EPA Act 1992, as amended, it does not require the licensee to submit an EIAR, so an EIA was therefore not carried out by the Agency.

Agency assigned submission number, nature of submission and Agency response
However the information sought from the licensee by the Agency for this review, and the environmental assessment carried out, as detailed in this report, was extensive and a full public and stakeholder consultation process is in place.
Issue 16-Objections
S010484. The concerns are as follows: The submitters understanding is that if this current licence renewal application is passed, people will have 28 days within which they can object. However, each objection will require a payment of €120. Agency Response: When the EPA issues a proposed decision on a licence application or review, anyone can make an objection to it in the form of written comments or observations. An objector may lodge an objection (incl. fee of €120 euro) within 28 days (on-line or in writing) of the EPA giving notice of the proposed decision (the period 24 December to 1 January inclusive is disregarded when calculating the set period). The objection must be made by 5pm on the last day for receipt of objections. The EPA may not accept objections received outside this period.
Issue 17-Litter
S010498, S010618. The concerns are as follows: The submitters would like the EPA and managers of the plant to walk from the plant down the factory road and Abbey Road to witness the obscene amount of rubbish that is discarded from the staff who work in the plant and walk up and down the road. When going for a walk early in the morning I have been witness to many ABP staff discarded rubbish/masks on our roads without a second thought. The lovely forested walk up to the nursing home is strewn with rubbish. Agency Response: The RD under Condition 5 requires the licensee to ensure that litter associated with the activity does not result in an impairment of, or an interference with, amenities or the environment at the installation or beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary. Any method used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution and the licensee shall, at a minimum of daily intervals inspect the installation and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours.
Issue 18-Confidential Information
S010869. The concern is as follows: The applicant submitted documents which it considered to be confidential. The EPA determined that this was not confidential and that 'this information is necessary for

Agency assigned submission number, nature of submission and Agency response
the processing of the Agency Initiated Review', uploaded to the portal on 28th November 2022. These documents have not been uploaded to the portal as yet and may impact on further issues to raised as part of the review process. Agency Response: The confidential information was resubmitted on the 11th November 2022.

16. Consultations

16.1 Cross Office Consultation

I consulted OEE Inspectors, Martina Nolan, Brian Meaney, Brendan Kissane and Lisa Maher in relation to enforcement of this site, Pat Chan in relation to financial provision, and Breege Rooney in relation to financial charges. OEE have confirmed that there are legal proceedings in train in respect of the existing licence, Reg. No. P0040-02.

16.2 Transboundary Consultations

There were no transboundary consultations undertaken, as there were no transboundary impacts identified.

17. Appropriate Assessment

In accordance with Regulation 42(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, the Agency must ensure that before a licence or revised licence is granted, that the Agency has undertaken Appropriate Assessment screening.

Appendix 1 lists the European Sites assessed, their associated qualifying interests and conservation objectives along with the assessment of the effects of the activity on the European Sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at Lower River Suir SAC (Site Code 002137), River Barrow and River Nore SAC (Site code 002162), Mid-Waterford Coast SPA (Site Code 004193), Tramore Dunes and Backstrand SAC (Site Code 000671) and Tramore Backstrand SPA (Site Code 004027).

The activity is not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it cannot be excluded, on the basis of objective information, that the activity individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the activity was required. This determination was made based on the following:

- Proximity to European Sites.

An Inspector's Appropriate Assessment has been completed and has determined, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the activity, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular the European sites specified in Appendix 2, having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this recommended determination and the conditions attached hereto for the following reasons:

- The RD requires trigger levels to be maintained for SW1, SW2 and SW3, which discharge to the River Suir via a WWTP (SW1) and a soakaway (SW2 and SW3), to ensure that the discharges will not negatively impact water quality and ensure the continued protection of water dependent species;
- Air Dispersion modelling demonstrates that the impact of emissions from the installation will be below the relevant air quality standards and the standards for protection of vegetation.
- The RD specifies ELVs and control measures for emissions to air to ensure that the discharges will not negatively impact air quality.
- The RD specifies ELVs in *Schedule B.3 Emissions to Waste Water Treatment* for W1-SEP1 and W1-CEP1 to ensure that the discharges will not negatively impact water quality and ensure the continued protection of water-dependent species.
- The RD specifies ELVs in *Schedule B.4 Noise Emissions* to ensure that the emissions will not have a negative impact on the surrounding environment;
- While there is potential for accidents and unplanned releases from the installation, it is considered that the conditions of the licence in relation to bunding and the protection of surface water and groundwater, are sufficient to ensure that accidental emissions from the activity will not impact on the qualifying interests of any of the European sites identified above. The RD specifies accident prevention and emergency response requirements.

In light of the foregoing reasons no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites specified in Appendix 2.

18. Updating the Existing Licence

The table below summarises the amendments made to the existing licence requirements because of the following:

- Adjustments approved by OEE,
- Once-off requirements specified in the existing licence having been achieved,
- Statutory and format updates of conditions.

Table 18.1: Details of Additional Condition Changes

Condition Number	Reason for Change
Definitions	Added definitions for SPA, SAC, LoW, evening time, fugitive emissions and updated definitions for incident, daytime & night time.
Condition 1.3	Updated to reflect new installation boundary map submitted
Conditions 1,2,3,4,5,6,7,8,9,10,11,12, Schedule A, B and C.	Updated to incorporate BAT and licence template updates.
Condition 3.1	New BAT condition on choosing and/or designing new plant/infrastructure.
Condition 3.10	New BAT condition on water meters and records.
Condition 3.12	Condition on silt traps updated to include oil separators.
Condition 3.13	New condition regarding firewater retention risk assessment.
Condition 6	Soil and groundwater relevant hazardous substances added as per IED requirements.
Schedule B.4 Noise Emissions	Updated to include an evening time noise limit in accordance with Agency Guidance.

19. EPA Charges

The annual enforcement charge recommended in the RD is €15,232, which reflects the anticipated enforcement effort required and the cost of monitoring. This is as per the Agency's 2020 enforcement charge.

20. Recommendation

The Agency, in considering the review of a licence, shall have regard to Section 83 of the EPA Act. The Agency shall not grant a licence or revised licence unless it is satisfied that emissions comply with relevant emission limit values and standards prescribed under regulation. In setting such limits and standards, the Agency must ensure they are established based on the stricter of both, the limits and controls required under BAT, and those required to comply with any relevant environmental quality standard.

The RD specifies the necessary measures to provide that the installation shall be operated in accordance with the requirements of Section 83(5) of the EPA Act, and has regard to the AA. The RD gives effect to the requirements of the EPA Act, as amended and has regard to submissions made.

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed

Niamh Connolly

Procedural Note

In the event that no objections are received to the Proposed Determination on the review, a licence will be granted in accordance with Section 87(4) of the Environmental Protection Agency Acts 1992 as amended, as soon as may be after the expiration of the appropriate period.

Appendices

Appendix 1: Assessment of the effects of activity/emissions/discharges on European sites and proposed mitigate measures.

Site Name (Code)	Lower River Suir SAC (002137)
Conservation Objectives	NPWS (28/03/2017) Conservation objectives for Lower River Suir SAC [002137]. Generic Version 1.0. Department of Arts, Heritage and the Gaeltacht Affairs.. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002137.pdf
Qualifying Interests (* denotes a priority habitat)	**Assessment**
Habitats Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	**Water emissions:** There is a hydrological pathway to the Lower River Suir SAC (002137). The main potential for impact could arise from changes in water quality which could affect the habitats and species directly or could affect the water dependant prey on which the qualifying species depend. The control measures proposed in the RD include ELVs specified and monitoring requirements. Other measures include the requirement for monitoring and setting trigger values for storm water emissions, bunding and integrity testing. Refer to the *Section 7.2 Emissions to Water/Sewer/Groundwater and 7.3 Storm Water Discharges of this report.* **Air emissions:** Changes in air quality could affect habitats and species. The SAC is 120m away from the installation. Air dispersion modelling has shown that emissions from the installation will not cause an exceedance in air quality standards, including standards for the protection of vegetation beyond the installation boundary. The control measures proposed in the RD include ELVs specified for boiler/thermal oxidiser emissions and monitoring requirements. Refer to *Section 7.1 Emissions to Air of this report.* **Noise emissions:** Noise emissions could have an impact on noise sensitive qualifying interests. Considering the distance from the installation, and the requirements of the RD, noise will not have a significant effect on qualifying interests within

Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] Taxus baccata woods of the British Isles [91J0] **Species** Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Alosa fallax fallax (Twaite Shad) [1103] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355]	this European site. The RD specifies noise limits of 55dB(A) (daytime), 50dB(A) (evening-time) and 45dB(A) (night-time) at any noise sensitive locations (NSLs). Refer to *Section 8 Noise* of this report. **Potential for accidents to arise:** There is the potential for accidents or emergency situations to arise from the operation of the installation, which could affect the habitats and species. The control measures include bunding, integrity testing, accident prevention and emergency response requirements. *Refer to Section 12 Prevention of Accidents of this report.*

Site Name (Code)	River Barrow and River Nore SAC (002162)
Conservation Objectives	NPWS (19/07/2011) Conservation objectives for River Barrow and River Nore SAC (002162). Generic Version 1.0. Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002162.pdf
Qualifying Interests (* denotes a priority habitat)	**Assessment**

Habitats Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Reefs [1170] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] European dry heaths [4030] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] Petrifying springs with tufa formation (Cratoneurion) [7220] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] **Species** Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]	**Water emissions**: The main potential for impact would arise from changes in water quality, which could affect habitats and species directly or indirectly. The discharge from the WWTP to the Suir River does flow in to the River Barrow and River Nore SAC (002162) approximately 6 kms downstream (river length). The control measures proposed in the RD include ELVs specified and monitoring requirements. Other measures include the requirement for monitoring and setting trigger values for storm water emissions, bunding and integrity testing. Refer to the *Section 7.2 Emissions to Water/Sewer/Groundwater and 7.3 Storm Water Discharges* of this report. **Air emissions**: The main potential impact would arise from changes in air quality which could affect habitats and species. The SAC is 6 kms away from the installation. Air dispersion modelling has shown that emissions from the installation will be negligible at the SAC, and will not exceed standards for the protection of vegetation at and beyond the installation boundary. The control measures proposed include ELVs specified in the RD for boiler emissions and monitoring requirements. Refer to *Section 7.1. Emissions to Air* of this report. **Noise emissions**: Noise emissions could have an impact on noise sensitive qualifying interests. Considering the distance from the installation, and the requirements of the RD, noise will not have a significant effect on qualifying interests within this European site. The RD specifies noise limits of 55dB(A) (daytime), 50dB(A) (evening-time) and 45dB(A) (night-time) at any noise sensitive locations (NSLs). Refer to *Section 8 Noise* of this report. **Potential for accidents to arise**: There is the potential for accidents or emergency situations to arise from the operation of the installation, which could affect the habitats and species. The control measures include bunding, integrity testing, accident prevention and emergency response requirements. Refer to *Section 12 Prevention of Accidents* of this report.

Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099] Alosa fallax fallax (Twaite Shad) [1103] Salmo salar (Salmon) [1106] Lutra lutra (Otter) [1355] Trichomanes speciosum (Killarney Fern) [1421] Margaritifera durrovensis (Nore Pearl Mussel) [1990]	

Site Name (Code)	Mid-Waterford Coast SPA (004193)
Conservation Objectives	NPWS (12/10/2021) Conservation Objectives: Mid-Waterford Coast SPA 004193. Version 8.0. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004193.pdf
Qualifying Interests (* denotes a priority habitat)	**Assessment**

Habitats Cormorant (Phalacrocorax carbo) [A017] Peregrine (Falco peregrinus) [A103] Herring Gull (Larus argentatus) [A184] Chough (Pyrrhocorax pyrrhocorax) [A346]	**Water emissions**: There is no hydrogeological pathway between the installation and the Waterford Coast SPA (004193). **Air emissions**: The air dispersion model demonstrates that the SPA is outside the zone of influence of the installation. The control measures proposed include ELVs specified in the RD for boiler emissions and monitoring requirements. Refer to *Section 7.1. Emissions to Air* of this report. **Noise emissions**: Noise emissions could have an impact on noise sensitive qualifying interests. Considering the distance (13.5km) from the installation, and the requirements of the RD, noise will not have a significant effect on qualifying interests within this European site. The RD specifies noise limits of 55dB(A) (daytime), 50dB(A) (evening-time) and 45dB(A) (night-time) at any noise sensitive locations (NSLs). Refer to *Section 8 Noise* of this report. **Potential for accidents to arise**: There is the potential for accidents or emergency situations to arise from the operation of the installation, which could affect the habitats and species. The control measures include bunding, integrity testing, accident prevention and emergency response requirements. Refer to *Section 12 Prevention of Accidents* of this report.

Site Name (Code)	Tramore Dunes and Backstrand SAC (000671)
Conservation Objectives	NPWS (05/09/2013) Conservation Objectives: Tramore Dunes and Backstrand SAC 000671. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000671.pdf
Qualifying Interests (* denotes a priority habitat)	**Assessment**

Habitats Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] Mediterranean salt meadows (Juncetalia maritimi) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]	**Water emissions**: There is no hydrogeological pathway to the Tramore Dunes and Backstrand SAC (000671). **Air emissions**: The air dispersion model demonstrates that the SAC is outside the zone of influence of the installation. The control measures proposed include ELVs specified in the RD for boiler/thermal oxidiser emissions and monitoring requirements. Refer to *Section 7.1 Emissions to Air* of this report. **Noise emissions**: Noise emissions could have an impact on noise sensitive qualifying interests. Considering the distance (9.5km) from the installation, and the requirements of the RD, noise will not have a significant effect on qualifying interests within this European site. The RD specifies noise limits of 55dB(A) (daytime), 50dB(A) (evening-time) and 45dB(A) (night-time) at any noise sensitive locations (NSLs). Refer to *Section 8 Noise* of this report. **Potential for accidents to arise**: There is the potential for accidents or emergency situations to arise from the operation of the installation, which could affect the habitats and species. The control measures include bunding, integrity testing, accident prevention and emergency response requirements. Refer to *Section 12 Prevention of Accidents* of this report.

Site Name (Code)	Tramore Backstrand SPA (004027)
Conservation Objectives	NPWS (05/09/2013) Conservation Objectives: Tramore Dunes and Backstrand SAC 000671. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000671.pdf

Qualifying Interests (* denotes a priority habitat)	**Assessment**
Species Light-bellied Brent Goose (Branta bernicla hrota) [A046] Golden Plover (Pluvialis apricaria) [A140] Grey Plover (Pluvialis squatarola) [A141] Lapwing (Vanellus vanellus) [A142] Dunlin (Calidris alpina) [A149] Black-tailed Godwit (Limosa limosa) [A156] Bar-tailed Godwit (Limosa lapponica) [A157] Curlew (Numenius arquata) [A160] Wetland and Waterbirds [A999]	**Water emissions**: There is no hydrogeological pathway to the Tramore Backstrand SPA from the installation (004027). **Air emissions**: the air dispersion model demonstrates that the SAC is outside the zone of influence. The control measures proposed include ELVs specified in the RD for boiler/thermal oxidiser emissions and monitoring requirements. Refer to *Section 7.1. Air Emissions* of this report. **Noise emissions**: Noise emissions could have an impact on noise sensitive qualifying interests. Considering the distance from the installation, and the requirements of the RD, noise will not have a significant effect on qualifying interests within this European site. The RD specifies noise limits of 55dB(A) (daytime), 50dB(A) (evening-time) and 45dB(A) (night-time) at any noise sensitive locations (NSLs). Refer to *Section 8 Noise* of this report. **Potential for accidents to arise**: There is the potential for accidents or emergency situations to arise from the operation of the installation, which could affect the habitats and species. The control measures include bunding, integrity testing, accident prevention and emergency response requirements. Refer to *Section 12 Prevention of Accidents* of this report.

Appendix 2: Relevant Legislation

The following Irish and European instruments are regarded as relevant to this assessment and have been considered in the drafting of the Recommended Determination.
Industrial Emissions Directive (IED) (2010/75/EU)
Environmental Impact Assessment (EIA) Directive (2011/92/EU as amended by 2014/52/EU)
Habitats Directive (92/43/EEC) & Birds Directive (79/409/EC)
Water Framework Directive [2000/60/EC]
Waste Framework Directive (2008/98/EC)
Groundwater Directive (80/68/EEC) and 2006/118/EC
Dangerous Substances Directive (2006/11/EC)
Regulation (EC) No 1907/2006 (REACH Regulation)
The Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015) (COMAH Regulations)
Energy Efficiency Directive.
European Union (Animal By-Products) Regulations 2009, as amended.

Appendix 3: Other CIDs/BREF/BAT documents relevant to this installation

Commission Implementing Decisions	Publication Date
The Conclusions for Waste Treatment, Commission Implementing Decision (CID) 2018/1147	August 2018
Sectoral BREF relevant to this installation	Publication date
Reference Document on the Best Available Techniques for the Slaughterhouses and Animal By-Products Industries.	May 2005
Reference Document on the Best Available Techniques for Waste Treatment	December 2015
Horizontal BREF	Publication date
Reference Document on the Best Available Techniques on Emissions from Storage	July 2006
Reference Document on the Best Available Techniques for Energy Efficiency	February 2009
National BAT notes	Publication date
BAT Guidance Note on Best Available Techniques for the Disposal or Recycling of Animal Carcasses and Animal Waste (2008)	August 2008